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Proposed Revisions to the Permanent Program Regulations Implementing Section 501(b) of the Surface Mining Control And Reclamation Act of 1977

Draft
Environmental Statement
OSM-EIS-1: Supplement

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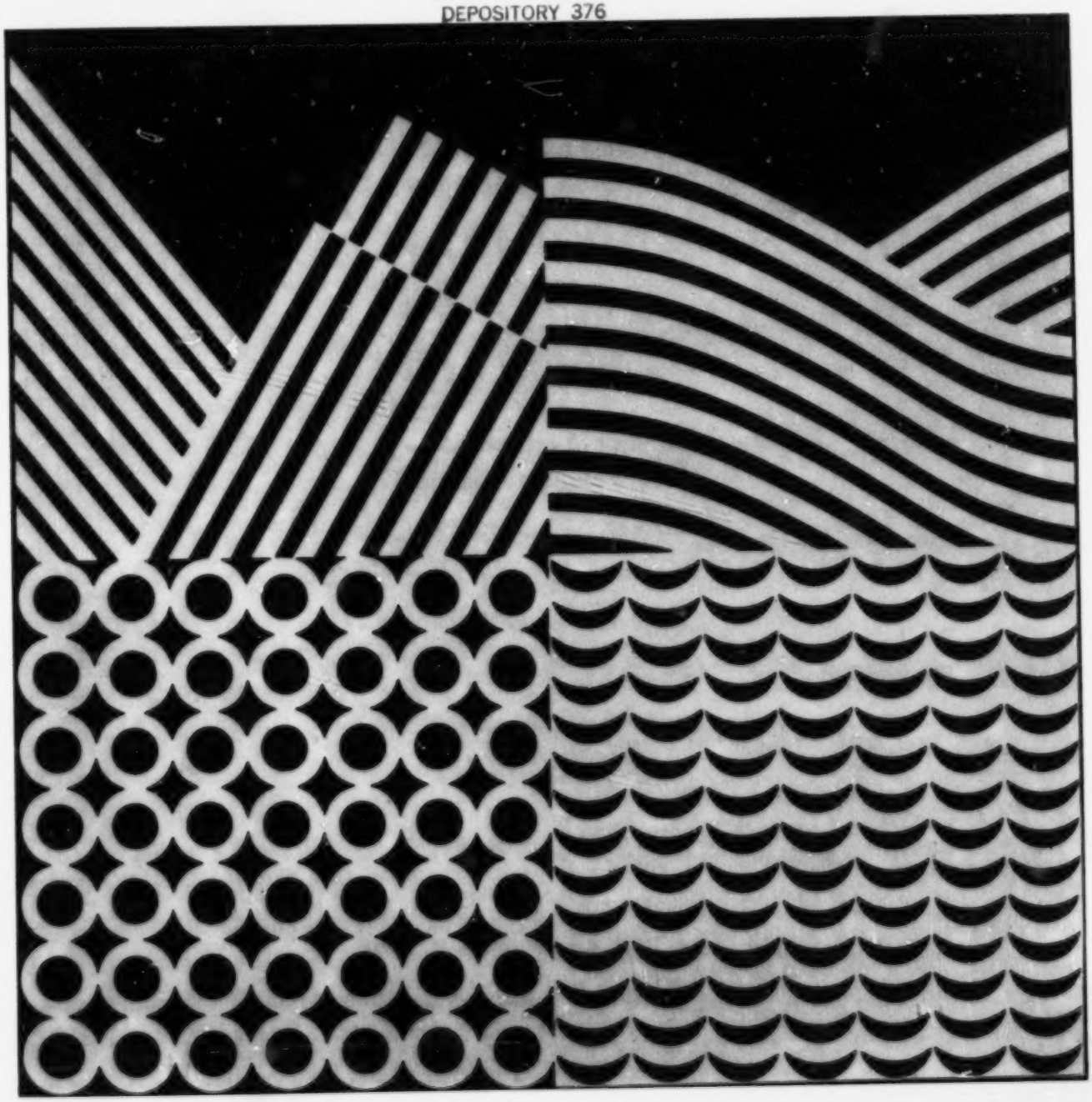

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U.S. Department of the Interior
Office of Surface Mining Reclamation and Enforcement

Proposed Revisions to the Permanent Program Regulations Implementing Section 501(b) of the Surface Mining Control And Reclamation Act of 1977

Draft
Environmental Statement
OSM-EIS-1: Supplement

June 1982

J. R. Harris

Director

COVER SHEET

Lead Agency:

Office of Surface Mining Reclamation and Enforcement, U.S. Department of the Interior

Proposed Action:

Revisions to OSM's permanent program regulations, which govern the surface effects of coal mining.

For copies of the proposed revisions and for information on this EIS, please contact

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Type of statement:

Draft environmental impact statement: supplemental to OSM-EIS-1 (1979)

Abstract:

The proposed revisions would have significant impacts on wildlife, land use, cultural resources, esthetics, and possibly hydrology. Those impacts would be due mainly to revisions proposed for subchapter F (areas unsuitable for mining), but also to revisions proposed for subchapters G (permits) and K (performance standards). The rest of the proposed revisions would not cause or contribute to significant impacts. Some of the significant impacts could be eliminated by selecting one of several proposed options; others, however, could be avoided only by modifying the proposed revisions or by revising only those regulations that were suspended in response to court order. Significant impacts on cultural resources could be eliminated only by reinstating the suspended regulations.

Comments on the Draft Environmental Impact Statement:

This draft impact statement was issued on June 18, 1982; it will be available for comment until 4:30 p.m. EDT on August 25, 1982. Public hearings will be held in late July; dates and locations will be announced in the Federal Register. We have requested comments from government agencies, private organizations, and individuals (See chapter V). If you wish to mail us review comments, please send them to--

Administrative Record (EIS-1-Supp)
Office of Surface Mining
Room 5315L
1951 Constitution Avenue, N.W.
Washington, D.C. 20240

If you wish to hand-deliver comments, please label them "Administrative Record (EIS-1-Supp)," and bring them to--

Office of Surface Mining
Room 5315
1100 L Street, N.W.
Washington, D.C.

Please keep this draft EIS, because the final EIS may incorporate it by reference.

PREFACE

This supplemental environmental impact statement (EIS) analyzes the cumulative environmental impacts of revisions proposed by the Office of Surface Mining (OSM) for some of its permanent program regulations (which govern coal mining). We have stated our conclusions about those impacts as explicitly as possible, so they will be readily apparent for your review. Please check these conclusions, particularly in the comparison of alternatives in chapter II, to make sure that they are accurate and adequately supported by the analysis in chapter IV.

This EIS supplements the EIS that OSM prepared when it originally adopted its permanent program regulations on March 13, 1979. It incorporates information from an environmental assessment (EA), issued May 3, 1982, which assessed the cumulative impacts of all the proposed revisions. The EIS differs from the EA in that it expands the analysis of impacts and alternatives.

SUMMARY

This supplemental environmental impact statement (EIS) considers revisions proposed by the Office of Surface Mining for its permanent program regulations (30 CFR Chapter VII). Those regulations are required by the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201 et seq.) and govern the surface environmental impacts of coal mining and reclamation. Specifically, this EIS considers revisions proposed for parts of subchapters A (general), F (areas unsuitable for mining), G (permits), K (performance standards), L (inspection and enforcement), and M (training and certification of blasters). (See appendix, table A-1.)

Several of the proposed revisions would have significant impacts on wildlife, land use, cultural resources, esthetics, and possibly hydrology (table S-1, next page). Those impacts would be due mainly to revisions proposed for the regulations (in subchapter F) that govern the process for designating areas unsuitable for mining and that define valid existing rights to mine coal on certain lands; significant impacts on large birds and migratory animals would also be due to revisions proposed for the fish and wildlife regulations (sec. 816.97 and 817.97, subchapter K--performance standards). Potentially significant impacts on marginal aquifers and on springs or streams into which they discharge would be due to changes proposed for the regulations that govern permits (sec. 780.21 and 784.14, subchapter G--permits).

The rest of the proposed revisions, individually or cumulatively, would contribute only negligibly to these significant impacts and would not cause any other significant impacts.

READEX FICHE

Table S-1.--Significant impacts resulting from proposed revisions of OSM's permanent program regulations

Regulation: 30 CFR--	Subject of revision	Summary of environmental impact
761.5	Definition of valid existing rights (VER) and reasonable remaining use	Would expand VER to include as much as 1 million acres of national forest land where surface mining is currently restricted, 73,000 acres of national wildlife refuge system land where mining is currently prohibited; and buffer zones around buildings, homes, roads, and cemeteries. This would affect land use, wildlife, esthetics, and cultural resources on those lands.
761.5	Definition of public park	Revision of the definition would allow mining on some privately owned lands now held open for public park use.
761.11(c) 761.12(f)(1)	Areas where mining is prohibited or limited	Proposed revision would no longer prohibit disturbance of privately owned properties listed, and all properties eligible for listing on the National Register of Historic Places.
762.5	Definition of fragile and historic lands	Would restrict unsuitability petitions for certain cultural resource sites.
764.13(a)	Right to petition	Would restrict petitions on State and private lands by requiring property interest. This would affect land use, wildlife, cultural resources, esthetics, and social conditions.

Table S-1.--Significant impacts resulting from proposed revisions of OSM's permanent program regulations--Continued

Regulation: 30 CFR--	Subject of revision	Summary of environmental impact
Part 769	Petition process for designating Federal lands unsuitable for mining	Elimination of petition process would restrict public participation in decisionmaking. This could affect land use, wildlife, esthetics, and cultural resources.
816.97 817.97	Certain standards	Deletion of specific standards would reduce protection of big game animals, waterfowl, and raptors.
780.21(b)(4) 784.14(b)(3) 816.52, 817.52	Ground-water monitoring	Elimination of requirement to monitor some marginal aquifers could allow contamination of surface waters into which they discharge.

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CHAPTER I

PURPOSE AND NEED

The Office of Surface Mining Reclamation and Enforcement (OSM) is proposing to revise a number of its permanent program regulations (30 CFR Chapter VII) (table A-1). These regulations govern the surface effects of coal mining and reclamation; they are required by section 501(b) of the Surface Mining Control and Reclamation Act of 1977 (SMCRA or the Act; Public Law 95-87, 30 U.S.C. 1201 et seq.), and they conform to the provisions of title V of the Act. The regulations were adopted in 1979; the impacts of adopting the regulations were considered in a previous EIS (OSM, 1979).

Some revisions to the regulations are being made in response to legal actions. For instance, OSM voluntarily withdrew certain regulations in response to court challenges (e.g., 44 F.R. 67942 and 44 F.R. 77454) and suspended other regulations in response to court orders (e.g., 45 F.R. 51547). Other regulations were suspended in response to rulemaking petitions (e.g., the regulations on effluent limitations and sedimentation ponds--44 F.R. 77447). In nearly all instances these suspended regulations must be replaced, because they are required by the Act.

Other revisions are being proposed in response to goals of the Department of the Interior to eliminate regulations that are excessive, burdensome, or counterproductive and to ensure that new regulations are reasonable and cost effective. In keeping with those goals, the Secretary of the Interior, in a letter of January 28, 1981, requested ideas for revising regulations believed to be "excessive, burdensome or counterproductive." States, citizen groups, and coal company representatives who responded to the letter suggested that OSM increase the flexibility of its regulations, account for differences between coal-producing regions, eliminate unnecessary difficulty and expense in complying with the regulations, and improve the enforcement program. (These suggestions are part of the OSM Headquarters Administrative Record.) The Department's goals and the proposed revisions accord with the goals of Executive Order 12291 (46 F.R. 13193)--namely, to reduce the burdens of regulations, to minimize duplication and conflict between them, and to ensure that they are well reasoned and that the benefits of new regulations outweigh their costs to society. The preambles to the revised regulations analyze in detail the reasons for proposed revisions to individual regulations. (See citations to Federal Register, table A-1.)

In accord with these goals and with the legal requirements noted above, OSM is proposing to revise some of its permanent program regulations and to replace others that have been suspended or withdrawn. OSM's ultimate purpose in proposing these revisions is to make the process of regulation work more effectively in meeting the requirements of the Act--notably, to revise regulations that impose undue burden on the operator or the States with no corresponding benefit to the environment.

In the process of revision, OSM proposes to simplify the language of the regulations and to organize them more logically so as to make them easier to understand and easier to apply. In making the proposed revisions, OSM anticipates turning over the main responsibility for regulation to the States, in accordance with the Act (sec. 503). In turning over this responsibility, OSM proposes to maintain nationally uniform standards through its oversight procedures (OSM, 1982)

and to ensure that the specific regulations adopted by the States provide the protection required by SMCRA.

The ultimate purpose of the regulations themselves remains unchanged: it is to achieve the intent of SMCRA--namely, to protect the environment while allowing for essential coal mining.

CHAPTER II

ALTERNATIVES, INCLUDING THE PROPOSAL

This supplemental EIS evaluates three alternatives: (A) adopt the proposed revisions to the permanent program regulations; (B) take no action (or minimum action) on the proposed revisions; and (C) modify the proposed revisions to reduce or eliminate significant impacts on the environment. This chapter describes and compares these alternatives. It focuses on those revisions that would cause or contribute to significant environmental impacts, based on the detailed analysis in chapter IV.

A. DESCRIPTION OF ALTERNATIVES

1. Alternative A: Adopt the Proposed Revisions

Under this alternative, OSM would adopt some combination of the revisions proposed for its permanent program regulations (30 CFR Chapter VII). The proposed revisions are summarized in appendix A-2. This alternative encompasses a number of options (or subalternatives) for certain of the proposed revisions. OSM may adopt any of these options or adopt other combinations of options that are within the range of those proposed. The analysis in chapter IV focuses on the options that would have the greatest environmental impact. OSM's preferred alternative is to adopt the proposed revisions; for regulations with several proposed options, OSM would select one option after public review of the proposed revisions.

The proposal considered in this EIS includes revisions proposed for parts of subchapters A (general), F (areas unsuitable for mining), G (permits), K (performance standards), L (inspection and enforcement), and M (training and certification of blasters). (See appendix A-1, and the Federal Register references cited there for the specific regulations for which revisions are proposed.) This EIS, of necessity, does not evaluate revisions that may be made in the future. Such revisions may include additional consideration of certain technical aspects of permitting covered in sections 780 and 784 in subchapter G (permits), and other changes which may be necessary to make the regulations internally consistent. When they are proposed, such revisions will be subject to NEPA compliance.

2. Alternative B: No Action/Minimum Action

Under the no-action alternative, OSM would not revise the regulations now in effect. However, many sections of the original permanent program regulations (table A-2, OSM, 1982a) were suspended by OSM following court action (In re: Permanent Surface Mining Regulation Litigation, No. 79-1144, D.D.C., February 26 and May 16, 1980), and would not be replaced. Because the Act requires the Secretary to promulgate the regulations necessary to carry out its provisions, it would be illegal to take no action on many of the proposed revisions. For this reason, we have considered a "minimum action" alternative (alternative B(2)), in which OSM would revise only those regulations which the district court remanded (see OSM, 1982a, table A-2). Regulations that OSM suspended voluntarily would be replaced unchanged, unless they were suspended in response to court order. Regulations that were not suspended would be also left unchanged. This alternative is a necessary substitute for the no-action alternative, because it would replace suspended regulations to meet the requirements of the Act. Under this

alternative the States would still be able to revise some regulations under section 731.13, the "State window" regulation.

3. Alternative C: Modify the Proposed Revisions

Under this alternative, OSM would modify any or all of the proposed revisions that would cause or contribute to significant impacts, so as to reduce or eliminate such impacts. Impacts on wildlife and hydrology would be reduced by retaining certain specific requirements of the current regulations (see chapter IV, Hydrology and Wildlife). Impacts on land use would be reduced by adopting new policies regarding preparation of EIS's on certain lands (see chapter IV, Land Use).

4. Combinations of Alternatives

OSM could adopt some of the proposed revisions, modify others, and leave still others unchanged in order to minimize impacts while still adopting proposed revisions that would have little or no impact.

B. COMPARISON OF ALTERNATIVES

Summary.—Few of the proposed revisions would cause or contribute to significant impacts, as documented in chapter IV. Those that would are shown in table II-1. Only two of the significant impacts shown in the left-hand column in table II-1 could be avoided by selecting other proposed revisions (second column). All but one, however, could be avoided by taking minimum action (third column); impacts on cultural resources would still be significant. To eliminate all significant impacts (fourth column), the suspended regulations affecting cultural resources would have to be reinstated.

1. Alternative A: Adopt the Proposed Revisions

Adopting certain proposed revisions would cause significant impacts on land use, wildlife, cultural resources, esthetics, and possibly hydrology. Significant impacts on those resources could be reduced, but not entirely avoided, by selecting the proposed options with the least impact. The leftmost column in table II-1 shows the proposed revisions that combine to produce the greatest impact; the second column shows the proposed revisions that combine to produce the least impact. Option 1 for section 761.5(a) (definition of valid existing rights) would reduce impacts on land use only slightly because the proposed language on avoidance of takings (sec. 761.5(d)) could still allow mining in the same areas opened to mining under option 2. Alternative 1 for part 769 would reduce impacts on land use because the petition process for Federal lands would remain open.

2. Alternative B: No Action/Minimum Action

If OSM took no action on the proposed revisions that were not suspended, adverse environmental impacts beyond those stated in the EIS on the original permanent program regulations (OSM, 1979, p. BII-54 to BII-63) would not be anticipated. Those impacts include many that are unavoidable but temporary (such as the loss of vegetation during active mining). Mining under either the current regulations or the revised regulations would continue to have such impacts. For those regulations OSM suspended pursuant to court order, taking no action would not be reasonable.

Table II-1.--Comparison of alternatives for proposed revisions with significant impacts

Explanation: numerals (1, 2, 3) refer to option in proposed revisions (see Chapter IV)
Zero (0) denotes proposed revision with no options

= denotes retaining current regulation
△ denotes alternative C--modifying the proposed revision
□ denotes revision that would cause significant impacts

Regulation	Alternatives: Proposed Revisions: Alternative A Greatest impact	Alternatives: Proposed Revisions: Alternative A Least impact	Alternatives: Modified Revisions: Alt. B Minimum/ No Action	Alternatives: Modified Revisions: No significant impacts	Where analyzed in chapter IV
761.5: definition of:					
(a) VER	□ 2	1	1	1 or △	Land Use
(d) Public park	□ 2	□ 1	=	=	Land Use
(d) Reasonable remaining use	□ 0	□ 0	=	=	Land Use
761.11(c): Areas where mining is prohibited	□ 0	□ 0	□ 0	=	Cultural Resources
761.12(f): Procedures	□ 0	□ 0	□ 0	=	Cultural Resources
762.5: Definition of:					
Fragile lands	□ 2	□ 1	=	=	Land Use
Historic lands	□ 0	□ 0	=	=	Cultural Resources
764.13: State process:					
(a) Standing	□ 0	□ 0	=	=	Land Use
Part 769:					
Federal lands	□ 2	1	=	1 or △	Land Use
816.97	□ 0	□ 0	=	△	Wildlife
780.21	□ 0	□ 0	=	△	Hydrology

If OSM took the minimum action necessary to restore the suspended regulations, significant impacts on land use, hydrology, wildlife, and esthetics would be avoided (see table II-1, third column from left). Impacts on cultural resources would still be significant because the required revisions to sections 761.11(c) and 761.12(f)(1) would open many cultural resource sites to mining (see chapter IV, Cultural Resources).

Under either the no-action or minimum-action alternatives, the Secretary would not be able to achieve the purposes described in chapter I. Not making the proposed revisions could result in continued confusion and uncertainty in the regulatory program and imposition of unnecessary and non-cost-effective standards. This would have unnecessary social and economic impacts on the coal industry and related economies.

3. Alternative C: Modify the Proposed Revisions

If OSM modified the proposed revisions as described in chapter IV, significant impacts on hydrology would be eliminated, and significant impacts on land use, wildlife, cultural resources, and esthetics would be substantially reduced. Depending on the effectiveness of the modifications concerning unsuitability designations (see chapter IV, Land Use), significant impacts on land use, wildlife, and esthetics might well be avoided. Impacts on cultural resources would probably still be significant (see chapter IV, Cultural Resources).

4. Combinations of Alternatives

In order to avoid any significant impacts, OSM would have to retain the original provisions of sections 761.5, 761.11, 762.5, and 764.13(a) (alternative B(2)) and modify the proposed revisions to the wildlife performance standards and hydrology permit requirements (alternative C). The remaining revisions (alternative A) could be adopted without significant impact.

Under this approach, the definition of valid existing rights (VER) would be expanded the minimum necessary to meet the district court's order (option 1 for sec. 761.5--the "good faith" test). The paragraph establishing VER where no reasonable use of the property would remain would not be proposed. Some new VER would be created, but probably not so much as to severely interfere with renewable resource production on public lands. The petition process for Federal lands would be retained, with relatively minor modifications (alternative 1 for part 769), and standing requirements for petitions on State and private lands would be left unchanged (sec. 764.13(a)). Petition requirements would increase, but not so much as to make the process inaccessible to citizens. Sections 761.11(c) and 761.12(f)(1) would have to be reinstated to protect privately owned National Register sites and sites eligible for the Register; this would probably require an amendment to the Act (see Cultural Resources).

Modifications to the proposed revisions for subchapter G (permits) would be fairly minor: the hydrology permit requirements would require monitoring of all ground-water sources that the determination of probable hydrologic consequences showed to be ecologically significant (see Hydrology); and the revisions proposed for subchapter K (performance standards) would specify requirements to protect wildlife (see Wildlife).

CHAPTER III

AFFECTED ENVIRONMENT

The environment that would be affected by the proposed revisions is described in the EIS on adopting the permanent program regulations (OSM, 1979, part A, sec. I; part B, sec. II.D.) The following description provides a general overview of the affected environment.

A regulatory program under SMCRA is being or will be implemented by OSM or the State in 38 States. However, only 30 States have quantities of coal identified as economically recoverable by surface mining. Local topographic, geologic, and environmental conditions dictate the types of mining operations that can be used to recover this coal.

A. NATURAL ENVIRONMENT

1. Eastern Coal Region

The coals of the eastern coal region of the United States (OSM, 1982a, fig. III-1) occur as relatively thin, nearly flat to steeply dipping beds in the ridges and valleys of the Appalachian Mountains and as nearly flat to moderately dipping beds on the plateau to the west. Generally, the topography of the region is rugged, with steep slopes terminating in narrow, flat valley bottoms along perennial streams. Much of the coal produced in the region is from contour, mountaintop removal, and auger mining operations; however, underground mining operations still account for a substantial amount of the coal production in this region. Coal has been produced here for more than a century, and the remnants of earlier coal mining operations are present throughout. The types of mining used in this region and in the midwestern and western regions are described in OSM (1979).

The area is humid, and most of the area is forested; only a small part is used for farming. The forests are second growth; except for the southern pulpwood forests, they are generally of low commercial value, but they are valuable for recreation and as habitat for many wildlife species. Urban development is concentrated along the floodplains and valley bottoms.

2. Midwestern Coal Region

Most of the coal of the midwestern coal region (OSM, 1982a, fig. III-1) is bituminous, and much of it has a relatively high sulfur content. Lignite coals are present in the southern part of the region. Most coal seams are flat lying or gently dipping, and much of this coal lies near the surface and is suited to surface mining; hence, most of the coal in this region is produced from medium to large surface mines. The ground surface throughout most of the coal lands of this region is rolling to gently rolling, although some of the coal lands, especially those near some of the streams, have a moderately rugged surface. Underground coal mining has also occurred in the Midwest for over a century, and remnants of earlier coal mining operations are present locally in many midwestern areas.

The climate of the region ranges from semihumid in the western and southern parts to humid in the northern and eastern parts. Most of the land is used for

farming or grazing. Most of the prime farmlands in the U.S. that have been or will be disturbed by coal mining are in this region.

3. Western Coal Region

Large parts of the coal lands of the western coal region (OSM, 1982a, fig. III-1) are underlain by flat lying or gently dipping beds of lignite or subbituminous coal. Some of the seams of subbituminous coal are 70 feet thick or more and lie at relatively shallow depths; overburden ratios commonly are 1:1 or less. Thus, most of the coal produced in the region is from large surface mines in such seams. All or some of the production for most of these mines come from federally owned coal. Some steeply dipping, thick beds of bituminous coal also mined by open-pit methods, as are beds of lignite. Much of the increased coal production in the United States in the last decade (1972-82) is from large open-pit mines in the western region. Although extensive, multiple beds of high-quality coal suited to underground mining are present in the region, only a small part of the coal produced in the region comes from underground mines.

The climate of the region is arid to semiarid; some coal-producing areas are deserts. The arid conditions of the region present special problems in reclamation. Most of the land underlain by coal in this region is used for agriculture, grazing, wildlife habitat, or recreation.

B. REGULATORY ENVIRONMENT

1. Statutory Background

On August 3, 1977, the Surface Mining Control and Reclamation Act of 1977, 30 U.S.C. 1201 et seq., was signed into law by the President. The Act is a comprehensive statute designed to "establish a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations" (section 102(a)). Congress also found that "because of the diversity in terrain, climate, biologic, chemical, and other physical conditions in areas subject to mining operations, the primary governmental responsibility for developing, authorizing, issuing, and enforcing regulations for surface mining and reclamation operations subject to this Act should rest with the States" (section 101(f)). Title V of the Act contains the statute's principal regulatory and enforcement provisions. That title establishes an interim (or initial) regulatory program and a permanent regulatory program. During the interim program the Secretary has responsibility with the States for enforcing certain of the environmental protection standards of section 515 of the Act (section 502(c)). The permanent regulatory program is implemented in each State through either a State program, under which the State assumes primary responsibility for regulating under the Act, or through a Federal program under which the Secretary assumes that responsibility.

2. Regulatory Background

On December 13, 1977, the Secretary issued final regulations implementing the interim program. These regulations were effective in all States by May 3, 1978. On September 18, 1978, the Secretary issued proposed regulations implementing the permanent program under the Act (43 F.R. 41662). On March 13, 1979, the Secretary promulgated and published the final permanent program regulations (44 F.R. 14902). The regulations are codified at 30 CFR 700 et seq.

The impacts of adopting the regulations are discussed in part B, sections II and III of OSM (1979).

The permanent program regulations were challenged in the United States District Court for the District of Columbia in In Re: Permanent Surface Mining Regulation Litigation, C.A. No. 79-1144. Decisions were issued on February 26, 1980, and May 16, 1980.

In response to the arguments raised in the permanent program litigation, the Secretary voluntarily suspended several permanent program regulations. These suspensions were announced in the Federal Register on November 27, 1979 (44 F.R. 67942-67943), December 31, 1979 (44 F.R. 77447-77455), and January 30, 1980 (45 F.R. 6913). In its two opinions the District Court remanded certain other regulations which had been challenged. These regulations were suspended by notice in the Federal Register on August 4, 1980 (45 F.R. 51547-51550).

Since the March 13, 1979, publication of the permanent program regulations, OSM has issued several final regulations which amended the permanent program regulations. Such regulations constitute part of the existing regulatory environment against which the proposed actions considered in this document are compared. Those final regulations which were published in the Federal Register before July 1, 1981 are codified at 30 CFR Chapter VII (1981). Other final regulations which were published before this proposed action include: controlled gravity transport of excess spoil, 46 F.R. 37232 (July 17, 1981); prime farmland grandfather rule (without cutoff date), 46 F.R. 477020 (September 29, 1981); resubmittal of State programs prior to Federal program implementation, 46 F.R. 50018 (October 8, 1981); revision of State program approval standard, 46 F.R. 53376 (October 18, 1981); and the suspension of self-bonding and surface protection bonding rules, 46 F.R. 59934 (December 7, 1981).

3. OSM Oversight

A State may assume primary responsibility for regulation of coal exploration and surface coal mining and reclamation operations in a State. Procedures for submission and approval or disapproval of State regulatory programs are provided in 30 CFR Parts 731 and 732. Once a State obtains approval of its permanent regulatory program or primacy, OSM's role becomes one of assistance to the State and verification that the Act's requirements are being met. This process of verification is commonly termed "oversight." OSM's responsibilities in its oversight role are to assist the States in implementing a program to achieve the purposes of the Act (sec. 102(g); make those investigations and inspections necessary to ensure compliance with the Act (sec. 201(c) of the Act); make inspections of any surface coal mining and reclamation operation as may be necessary to evaluate the administration of approved state programs (sec. 517(a)); issue cessation orders for violations which create an imminent danger to the health and safety of the public, or cause or reasonably are expected to cause imminent environmental harm to land, air, or water resources (sec. 521(a)); enforce any part of a state program not being enforced by the State (sec. 504(b) and 521.); promulgate and implement a Federal program for a State if the State fails to enforce or maintain its approved program (sec. 502(a)).

The OSM policies and procedures for oversight are described in OSM (1982). Specific procedures for each of the above oversight responsibilities are in this report.

OSM oversight is coordinated through the appropriate OSM Field Office. State activities will be both monitored and evaluated. Monitoring will consist of oversight inspection and program data furnished by both States and other sources. OSM will document the results of all inspections and investigations and will include any supporting data and analyses applicable to the evaluations. The State will have the opportunity to review and comment upon any findings and recommendations and these comments will be considered prior to issuing the final evaluation report each year.

Two types of OSM evaluations will be made:

- Intermittent or periodic evaluations will consist of the day-to-day dialogue between the State and OSM in the resolution of issues and needs that are identified throughout the year or evaluation period. These evaluations will create a continuous feedback process in which problems can be corrected or questions resolved on an informal basis.

- Annual evaluations will consist of a review of the State's achievements during the preceding evaluation period. During each annual evaluation period, OSM staff will visit the State to review the entire State program and the activities conducted during the year. The evaluation will include a review of the intermittent or periodic evaluations and an analysis of any continuing unresolved issues. The activities conducted by OSM, and the resulting evaluations of the State's systems will form the basis of the annual report documenting the State's implementation and maintenance of the approved program.

Oversight will enable OSM to answer two fundamental questions about each State program. First, is the State adhering to its approved program? Second, how effective is the State program in fulfilling the requirements of SMCRA and the permanent program regulations? As each State program is implemented, the focus of oversight can be expected to be on the first question and how the State can be assisted; however, the focus will switch to the second question as a State program becomes more mature.

The annual evaluation team will analyze program data supplied by the State regulatory agency which, at a minimum, will include information regarding permits, bond release, bond forfeiture, inspection reports, permit revocations, enforcement actions, results of citizen complaint inspections, results of 10-day notices referred to States, and policy memoranda and handbooks. Also included will be supplemental program data resulting from OSM's semi-annual audits of the State's records or as submitted by the State on a semi-annual basis. These data would consist of the number of authorized inspection personnel, citizen complaints received and cited, assessment conferences, civil penalty collections, informal hearings completed, and violations referred to State courts.

Another primary source of information for OSM oversight are OSM inspections of coal mines and related structures (inspectable units) to determine the effectiveness of the State regulatory authority. A statistical sampling technique will be used to randomly select inspectable units for evaluation by State. This technique is described in three reports prepared by Horner and Associates (1981a, 1981b and 1980) for OSM. Using this technique, only a percentage (17.4 percent on a national basis) of the inspectable units in each State must be evaluated annually to establish a 95 percent confidence level, with a 5 percent confidence interval,

that inspectable units sampled accurately represent all inspectable units in the State. In States with less than 100 units, all or almost all units will be evaluated annually; however, in States with thousands of inspectable units only a small percentage must be evaluated to make valid inferences about a State's regulatory performance. For example, only about 6 percent of the units in a State with 6,000 units need to be evaluated. This technique should assist OSM to not only identify those States with regulatory performance problems, but also will help OSM staff to determine which category of the State's activities are atypical. Since the inspection data can also be statistically analyzed by category of activity, this statistical technique will allow the 69 OSM inspectors in FY 83 to effectively check State compliance. Additionally, approximately 150 technical professionals in Technical Service Centers and Headquarters and 100 professionals in Field Offices and Headquarters are available on an as-needed basis for oversight activities.

Because the OSM procedures for oversight were implemented March 5, 1982, no annual reports conforming to the new procedures have been prepared. However, interim evaluation reports for Texas and Montana were completed March 1, 1982, based on previous and less explicit procedures. Similar interim evaluation reports are in preparation for 16 States that have had approved State program regulations long enough to be evaluated. These reports will be completed by June 30, 1982.

Both evaluations identified a major problem involving implementation of the State program. Comprehensive reviews of permit applications cannot be accomplished in the 6-month period following submission by operators as required by section 506(a) of SMCRA. However, section 506(a) also allows operators to continue existing operations if application for a revised permit has been filed.

CHAPTER IV

ENVIRONMENTAL CONSEQUENCES

This supplemental environmental impact statement assesses the impacts of adopting a number of revisions that the Office of Surface Mining Reclamation and Enforcement (OSM) is proposing for its permanent program regulations (table A-1). This chapter discusses both the general impacts of adopting the proposed revisions and the specific impacts on each environmental resource.

The proposed revisions would have significant impacts on wildlife, land use, cultural resources, esthetics, and possibly hydrology. (See table S-1.) Those impacts would be due mainly to revisions proposed for subchapter F (areas unsuitable for mining). Significant impacts on wildlife would also be due to revisions proposed for the fish and wildlife regulations (sec. 816.97 and 817.97, subchapter K--performance standards). Potentially significant impacts on hydrology would be due to changes proposed for the regulations that govern permits (sec. 780.21, subchapter G--permits). (Here and elsewhere, reference to part 780 (permits for surface mines) generally implies reference to part 784 (permits for underground mines), and reference to part 816 (performance standards for surface mines) implies reference to part 817 (performance standards for underground mines).))

The rest of the proposed revisions, individually or cumulatively, would contribute only negligibly to these impacts, and would not cause any other significant impacts. We have considered secondary and higher-level impacts--that is, situations in which direct impacts on one resource would have appreciable indirect impacts on other resources; impacts on hydrology and land use, for example, would contribute to significant impact on wildlife, and impacts on land use would contribute to significant impact on esthetics. Cross-references throughout this chapter indicate the more important of such linkages between resources. We have also considered interactions between revisions that might contribute to significant impacts. We found only one notable interaction: revisions to the petition process would combine with revisions to unsuitability designations to reduce protection of historic and archeologic sites (see Cultural Resources). Our analysis has identified no significant synergistic impacts--that is, impacts of more than additive magnitude or significance due to such interactions between two or more of the proposed revisions.

A. GENERAL IMPACTS OF ADOPTING THE PROPOSED REVISIONS

Many of the proposed revisions would have no discernible environmental impacts; such revisions include proposed deletions that would reduce redundancy in the regulations or duplication with identical regulations of other agencies, and proposed reorganization and simplification that would make the regulations easier to use. More substantive revisions would commonly affect many resources, although, as noted above, significant impacts would be restricted to wildlife, land use, cultural resources, esthetics, and possibly hydrology (table S-1).

For those revisions that would have discernible impacts, the impacts fall into two classes--those for which the impact would be either clearly beneficial or clearly adverse and those for which the impact would be equivocal. Clearly

beneficial impacts would result, for example, from the proposal to impose a cutoff date after which certain prime farmlands could no longer be exempted from the requirements of the prime-farmlands regulations (see Soils). Similarly, beneficial impacts would result from the proposal to increase the stringency of the 2-acre exemption. (See discussion below.) By contrast, impacts that were almost certainly adverse would result from the proposal to modify the process for petitioning to have certain lands designated as unsuitable for mining and from the proposal to broaden the definition of valid existing rights to mine on certain lands on which the current regulations do not allow mining. (See Land Use).

The second class of proposed revisions would have equivocal effects, but the net effect of such revisions would probably be small. Among such revisions are those that specify standards for performance rather than requiring specific practices or designs, and those that replace more specific standards with more general goals. (See related discussion in OSM, 1979, p. BIV-16A to BIV-24.) Such revisions would affect the performance standards for wildlife (sec. 816.97) and for roads (sec. 816.150 to 816.156). Such revisions would allow the regulatory authority to approve innovative designs that were well adapted to local conditions. They would, of course, also allow the regulatory authority to approve designs that met only the minimum standards. There is no basis for concluding that such revisions would have adverse impacts: they would be as likely to increase environmental protection as to reduce it. Adopting a revised regulation would protect the environment better in some instances, less well in others; or it would benefit one resource while adversely affecting another. We believe that the designs that would be approved under such revised regulations would generally differ only slightly from the designs required by the current regulations, so the net effect of such revisions would be small.

1. Effects of Making the Regulations More Flexible

The current regulations tend to prescribe specific practices and design criteria for mining and reclamation; the proposed revisions would remove many of these practices and design criteria, so as to allow more flexibility in adapting designs to the needs of specific sites. The revised regulations would retain design criteria where the difficulty in fashioning enforceable performance standards effectively precludes their use, (e.g., for structures, fills, and impoundments) and where SMCRA requires them, (e.g., for the disposal of excess spoil). Many of the performance standards in the revised regulations would be essentially the same as those in the current regulations. The net effect of such revisions would be very small, for the reasons detailed below.

Specific design criteria (e.g., freeboard of diversions must be at least 0.3 feet) readily allow the operator, the public, and the regulatory authority to see whether a proposed design conforms to a required design criterion. Although design criteria imply an expected level of performance, they cannot guarantee that that level will be achieved. With nationally uniform design criteria, facilities are underdesigned in some settings and overdesigned in others (with subsequent environmental and energy costs). Moreover, the regulatory authority and the operator may not be legally accountable if such designs do not perform at the desired level. Inevitably, a specified design is more successful in some settings than in others; and a variety of designs that were adapted to specific settings would almost certainly work at least as well as a single design applied uniformly, irrespective of local conditions.

By contrast, performance standards emphasize results--that is, whether designs (whatever they are) actually work. In general, compliance with performance standards can be readily verified when the standards are explicitly specified (e.g., for effluent limitations). For regulating coal mines, performance standards probably work well for impacts that are likely to occur fairly early in mine life; such impacts can be readily recognized and corrected. But performance standards probably work less well for impacts that occur late in mine life or after reclamation: it may be technologically infeasible to correct such impacts (after reclamation has been completed) or legally infeasible (after bond release)

Performance standards may well put more burden on the regulatory authority not only in enforcing the regulations but also in reviewing proposed permit applications. Specifically, the regulatory authority must decide whether a given proposed design will perform as required; typically, he must do so while reviewing the operator's permit application, before problems have occurred. For example, the upward migration of salts through topsoil replaced on saline spoil cannot readily be reversed; vegetation growing on such soils may be irretrievably harmed. Such a potential problem can be prevented only if the regulatory authority recognizes during permit review that the proposed design could lead to a problem and requires the operator to bury or treat such spoil.

Performance standards are commonly perceived as more difficult to enforce than design criteria (Hemenway, 1980 p. 7-8). Certainly, general performance goals are hard to test and susceptible to differing interpretations, while design criteria, for the most part, are specific. For example, the requirement for best technology currently available in the revised fish and wildlife regulations (sec. 816.97) is more susceptible to different interpretations than the requirement for specific technological designs. Accordingly, performance goals may well demand more competence of regulatory and industry personnel and put more of a burden on the regulatory authority in evaluating compliance (Hemenway, 1980, p. 7).

The current regulations specify design criteria for such facilities and structures as diversion channels, impoundments, sediment ponds, and waste piles, but many of the revised regulations would require only that registered professional engineers or other certified professionals design, inspect, and certify such facilities. These professionals would be accountable for design failures. It is reasonable to conclude that this accountability--plus the training and experience of these professionals--would generally ensure that facilities were designed so as to perform at the required level. Moreover, the regulatory program would rely on certification of permit applications by such professionals and would continue to rely on review and approval by the regulatory authority and on subsequent inspection and enforcement. Finally, to indicate state-of-the-art practices to operators, professionals, and regulatory authorities and to increase the likelihood that environmentally effective designs are adopted, OSM is publishing technical memoranda on certain regulations and a series of handbooks that suggest practices and designs that can be used to comply with the required standards.

In sum, eliminating required design criteria from the regulations would allow regulatory authorities to approve designs tailored to local needs. This flexibility would have the potential to reduce impacts. Operators would probably continue to use existing practices and designs where allowed by State regulations; but the revised regulations would also permit them to use more effective and less costly practices and designs. Although this would not guarantee better designs, it would

allow for technological innovation; and it could mean that designs would gradually improve over time without the need to revise the regulations.

The revised regulations would allow more flexibility to the States in developing regulations that are consistent with the OSM regulations. Approaches to compliance will also vary among States. Because individual States will first determine compliance of permit applications with State regulations, and then provide primary enforcement of the State regulations and permits, two additional unknowns that cannot be clearly quantified in any environmental analysis occur. Some States may perform their obligations better or worse than others, with concomitant effects on impacts. OSM oversight reviews of State actions, and the form and timing of required corrections to State actions by OSM would create an additional level of uncertainty in this analysis. Because of the compounding of these uncertainties it is not possible with any accuracy to predict or distinguish between either probable or worst-case quantitative impacts of performance standards and design criteria, and differences in impacts are essentially remote and speculative. Nor have we found any exceptions to this general conclusion in analyzing the specific impacts of each proposed revision.

2. Effects of Enforcement

Some of the revised regulations (for example, the wildlife performance standards--sec. 816.97; see Wildlife) would probably be somewhat harder to enforce than the current regulations, because they would be somewhat less specific. This will require additional training of inspectors and may require additional time to complete each inspection. As detailed below, however, we believe that the proposed revisions would not appreciably change the effectiveness with which the permanent program regulations are enforced. Enforcement would vary somewhat from State to State, just as it does under the current regulations, and in some States it would probably be criticized as being deficient (e.g., Public Lands Institute, 1980; Save our Cumberland Mountains, 1981); in other States it would be criticized as being too strict.

Our analysis assumes that by early 1983 all of the 24 States that have submitted proposed programs will have those programs approved and, thus, that those States will be enforcing their own regulations (which must comply with OSM's regulations in order to be approved). As of April 15, 1982, 6 State programs had been approved, 11 conditionally approved, and 4 partially approved. Once its program has been approved, a State becomes responsible for enforcing its own regulations. State regulations must be "as effective as" OSM's permanent program regulations. One control on effective implement of the regulatory program is the fact that OSM will rigorously review each State program for compliance with the permanent program regulations before approving it. A second control is OSM's oversight of those State programs; OSM will no longer enforce the regulations by inspecting mines directly, but OSM's oversight of State inspection and enforcement programs will ensure complaince.

The proposed revisions would probably increase the States' enforcement workloads only negligibly, because inspectors would continue to be guided by approved permits in inspecting minesites. At most, the increase would be but a small fraction of the increase due to adopting the permanent program regulations in the first place. The number of inspectors has been increasing rapidly (OSM, 1982a, table IV-2), suggesting that enforcement staffs will be more than adequate. In 1983, there will probably be more than 800 inspectors for about 18,700 mines and

related facilities: OSM will have about 70 inspectors (OSM, 1982a, table IV-1), the States about 740 (plus more than 1,000 additional employees administering the State regulations). In late 1980 (when the interim regulations were in effect in most States), by contrast, there were about 450 inspectors for about 17,000 mines and related facilities: OSM had 205 inspectors, and the States had perhaps 250. (The actual number of State inspectors is not known; we estimated it by assuming that the ratio of inspectors to total inspection personnel was the same as reported for 1982 and projected for 1983.) (In early 1982, there were about 650 inspectors: OSM had 90, the States 570.)

We believe that enforcement budgets will be adequate. Subject to Congressional approval, OSM plans to provide funding for the States' programs--50 percent annually for most States. If States request assistance, OSM Area Offices and Technical Service Centers can provide further funding.

Finally, we believe that the competence of enforcement will not change. Clearly, it is not possible to assess the competence of all the people who will evaluate and approve permit applications and who will inspect mining operations; it is reasonable to conclude that they will, on the average, be at least as competent as the people who have evaluated, approved, and inspected mines for OSM in the past. The competence of enforcement will clearly vary from State to State, as it does under the current regulations; but the proposed revisions would not in themselves appreciably affect the level of competence or the variability of enforcement. Some additional training for staff may be necessary; but many States already have training requirements for their inspectors, which could readily be expanded.

SMCRA's goal of a uniform nation program (Committee on Disposal of Excess Spoil, 1981, p. 98) will be achieved through the States' implementation of their approved State programs and through OSM's oversight of the States' regulation. OSM has distributed its oversight program (OSM, 1982) to all State regulatory authorities, and to the mining industry, Congress, and the environmental community. Oversight procedures will allow OSM to identify deficiencies early and to implement corrective procedures in time to minimize adverse environmental impacts.

B. SPECIFIC IMPACTS OF ADOPTING THE PROPOSED REVISIONS

This section discusses the impacts of adopting the proposed revisions, considering those impacts resource by resource, so as to ensure that our analysis has not overlooked cumulative or synergistic impacts that are concentrated through complex linkages on a single resource. The discussion of each resource begins with a summary, presenting general conclusions about the significance of the expected impacts and briefly noting the evidence that supports those conclusions. The summary is followed by further discussion of the supporting evidence.

The following proposed revisions would not have clearly defined impacts on individual resources. None of these impacts would be significant. Appendix A-1 shows specific regulations within each category of proposed revisions.

The proposed revisions for coal exploration would have no significant impacts, because changes in the revised permitting procedures would continue to require persons who substantially disturb the natural land surface to file a notice of

their intent to explore. The proposed revisions for performance standards for exploration also would have minimal effects. Only those standards pertaining to roads and stream diversions would be substantially changed. The changes to the roads standards would incorporate the roads performance standards (sec. 816.150 to 816.156, subchapter K). The impacts of allowing stream diversions would also be minor, because such diversions are not likely in connection with exploration activities. In addition, the proposed changes to the definitions of "coal exploration" and "substantially disturb" would generally be functionally equivalent to the existing definitions. Although the proposed definition of "substantially disturb" would eliminate references to impacts on air resources, exploration activities would not have a significant effect on air quality.

Revisions proposed for section 700.11(b) would minimize the potential for abuse of the 2-acre exemption by regulating mines that might otherwise go unregulated. This would increase environmental protection, especially in the East where mines are relatively small. The standard criteria for determining exemption eligibility could enable the regulatory authority to apply the exemption with uniformity and consistency. Implementation of any one of the alternatives on allotting segments of roads would strengthen the effectiveness of the 2-acre regulation. This would have a direct and beneficial impact on the environment because segments of roads could not be indiscriminately excluded from operations in order to reduce their total affected area to less than 2 acres so as to qualify for the exemption. The revised regulation would allow operations that do not meet the other criteria of the regulation to be exempted under extraordinary circumstances. But there is no evidence to suggest that this provision would be used except rarely; the number of exemptions would probably be far fewer than that allowed under the current regulation. Overall, the proposed revisions would have a beneficial impact on the environment. The extent of the impacts would be localized or regionalized in nature in a diversity of physical settings. However, on a national basis, none of the proposed revisions of the 2-acre exemption would have significant environmental effects.

The revisions proposed for the permit process regulations (parts 773, 775, and 778) would have negligible impacts, because, for the most part, the revised regulations would merely reorganize and consolidate the current regulations. The process of applying for, reviewing, and approving permits would remain essentially the same as under the current regulations.

The revised regulations (sec. 785.13) would encourage experimental mining and reclamation practices--for example, restoration of wetlands--while continuing to require that the regulatory authority review and approve such practices and that the practices be at least as effective in protecting the environment as the practices that would normally be required. No experimental practices have been authorized to date; the proposed revision would facilitate their use. The proposed revisions would probably have beneficial effects on most environmental resources. Because the permit for experimental practices would have to be reviewed annually (rather than once every 3 years, as under the current regulations), experimental practices that proved unsuccessful could be more promptly modified or stopped, thereby reducing environmental damage. Similarly, practices that proved successful could probably be applied somewhat more promptly than under the current regulations, thereby improving mining and reclamation technology. Moreover, successful practices would suggest rational changes to regulations.

The revisions proposed for the regulations governing roads (sec. 816.150 to 816.176; 816.180) would have negligible net impact. Although erosion could temporarily increase along some roads, sedimentation would be controlled, so there would be little impact on water quality.

The proposed redefinition of surface coal mining operations (sec. 816.180) would have a beneficial effect on the environment, in that it would allow for regulation of coal-processing facilities away from a mine. The revisions of the regulations for support facilities, utility systems, and other transportation facilities would have a negligible impact; for the most part, these regulations would only be reorganized for clarity. The revised regulations on coal processing plants would have mixed impacts. Coal processing plants could continue to be subject to almost all of the current performance standards. But plants that do not separate coal from its impurities (e.g., crushing plants) would no longer be subject to those standards in all cases, depending on their location in relation to other facilities. Other proposed revisions would eliminate performance standards that are not generally applicable.

The revisions proposed for special bituminous mines in Wyoming (part 825) would have negligible impacts, because the revised regulations would have essentially the same requirements as the current regulations. (See appendix A-2.)

The revised regulations would require OSM to take appropriate action when a violation is observed during reinspection of a mine in a State that has achieved primacy. The current regulations (sec. 843.12(a)(2)) require OSM to issue a notice of violation or a cessation order. Under the revised regulation OSM may lack the authority to issue a notice of violation directly to the permittee. OSM's responsibilities for oversight (ch. III) and the States' responsibilities for enforcement (this chapter) probably make impacts unlikely. State that have achieved primacy will be required to issue notices of violation and cessation orders as appropriate, and it is not expected that any State would allow violations to continue where they would cause environmental harm. Where OSM observes violations during reinspection of the site, following notification to the State, OSM will collect evidence of the violation for use in documenting the State's lack of enforcement. OSM would still have the authority to issue a cessation order.

1. Air Quality

The proposed revisions would not cause or contribute to significant impacts on air quality. Proposed revisions to the regulations that directly affect air quality were analyzed in a cumulative environmental assessment (OSM, 1982a) and were found not to have significant impacts on air quality. Consequently, those revisions are not considered part of the proposals analyzed in this EIS. Other revisions affecting reclamation requirements would continue to ensure that mined lands are revegetated (see Soils and Vegetation). This would control wind erosion, which otherwise would contribute to suspended particulates. Suspended particulates would continue to be subject to regulation by air-quality agencies as necessary to comply with the National Ambient Air Quality Standards, which would ensure that ambient particulate levels do not endanger human health or welfare. The proposed revisions would not affect gaseous emissions from mining equipment or blasting. Because the proposed revisions would not lead to significant impacts, we have suggested no alternatives.

2. Topography

Summary.--The revised regulations would not cause or contribute to significant impacts on topography. The revised regulations would no longer require all mined areas to be restored to approximate original contour. This would affect considerable areas in the East, but the resulting impacts on topography would not be significant: erosion would still have to be controlled and mass movement of fill prevented. The topographic changes would locally affect esthetics, hydrology, and other resources, but the net effect would probably be small (see Land Use). Other regulations affecting slope configuration, erosion control, disposal of excess spoil, mountaintop removal, subsidence, alluvial valley floors, and construction of dams, impoundments, and roads would ensure that postmining topography was stable and capable of supporting proposed land uses. Because the proposed revisions would not lead to significant impacts, we have suggested no alternatives.

The revised regulations (sec. 816.102) would require operators in backfilling and grading to reclaim mined areas to approximate original contour (AOC), to replace spoils in a manner that ensures a 1.3 long-term static safety factor, and to eliminate highwalls except in remining previously mined areas when adequate spoil was not available. The current requirements allow the regulatory authority to approve certain exceptions to the AOC requirements, but they generally do not allow the retention of highwalls. Operators would be required to place backfilled material to minimize offsite effects and adverse effects on ground water. The requirements would ensure that postmining topography was geomorphically stable and capable of supporting anticipated land uses.

The revised regulations (sec. 816.102(b)) would no longer limit the width of individual cut-and-fill terrace benches to 20 feet; instead, they would allow wider terraces if the terraces were compatible with the approved postmining land use. This revision would allow for a different topography by permitting construction of a wide terrace rather than one or more narrow terraces. Because terraces wider than 20 feet would allow for several "higher" land uses (such as roads or perhaps strip housing developments), wider terraces would probably be built fairly often, especially in the East and Midwest. Operators would still have to control erosion on the larger cut slopes created by wide terraces, and they would have to design stable slopes. This would place a practical economic limit on the width of terraces because the cost of controlling erosion and ensuring stability could become prohibitive.

Proposed revisions of the regulations affecting postmining land use (sec. 816.133(d)) would encourage alternative uses of the land after mining, particularly in the East, where demand for housing and other building sites is high. This would involve reclamation to less steep and possibly more uniform topography--typically flat or gently rolling land suitable for building sites and agricultural land (see Land Use).

The revised regulations (sec. 816.71(d)) would allow the regulatory authority to approve the disposal of excess spoil through placement on pre-existing benches created during previous mining operations. The existing regulations (sec. 826.16) limit such disposal to preexisting benches on steep slopes with multiple coal seams. The unreclaimed benches would have to be backfilled and graded to achieve the most moderate slope possible that did not exceed the angle of repose; highwalls along the benches would have to be limited to the extent practicable. The revisions would require a long-term static safety factor of 1.3 for spoils placed on

solid benches, compared to the current factor of 1.5. This would not increase landslide hazards because spoils placed on the solid portions of preexisting benches are inherently more stable than spoils placed on valley soils. The proposed revision would result in the restoration or partial restoration of unreclaimed benches in many mined areas, particularly in the East. This would reduce highly noticeable remnants of previous steep-slope mining. Because the proposed regulation would no longer be restricted to multiple-seam operations, this beneficial practice could be applied more widely.

The revised regulations governing remining of previously mined areas would allow the retention of highwalls if there was insufficient spoil available to completely backfill the highwall. Highwalls would have to be backfilled to the extent practicable, and remaining highwalls would have to be stable. The revised regulations would not require reclamation of highwalls that were not adversely affected by the new mining operation; they would also allow disposal of excess spoil on existing benches without eliminating preexisting highwalls. Under the proposed revisions certain highwall remnants would not be eliminated, especially in the East where past mining has left such highwalls.

3. Geology

Summary.--Unique or scientifically important geologic resources, such as fossil beds or type localities of named geologic formations, would continue to be protected under regulations governing protection of cultural resources. The proposed revisions would not significantly affect the recovery of minerals other than coal; nor would they affect flood hazard or slope stability. Because the proposed revisions would not cause or contribute to significant impacts, we have not suggested alternatives.

Impacts on geologic resources (which would come from removal of soils, rock strata, and land forms during mining) would not be significant. Such resources ordinarily have no intrinsic value, and their disturbance during mining is important only insofar as it may cause impacts on land uses, hydrology, or other resources. Geologic impacts would be important where unique fossil or mineral assemblages or the type locality of a named geologic formation would be mined. In those cases, which are expected to be very rare, the regulatory requirements to inventory and protect cultural resources would continue to prevent loss of valuable scientific information. Where the production of commercially valuable minerals, (such as oil or gas) would be temporarily interrupted by coal mining, the adverse effect would be almost entirely economic. Oil or gas could still be developed after mining. Commercial minerals rarely occur above or directly under coal deposits, except for such minerals such as fire clays that generally are developed only in conjunction with coal mining.

Section 816.41(f)(1) of the revised regulations would allow the operator two options for designing stream diversions. He could design diversions equal to the capacity of the unmodified channel immediately upstream or downstream from the diversion; such diversions would not significantly alter the frequency or magnitude of flooding. Alternatively, the operator could design temporary diversions that could safely pass the peak runoff of a 10-year 24-hour precipitation event and permanent diversions that could safely pass the peak runoff of a 100-year 24-hour event (both designs must be approved by the regulatory authority and certified by a registered professional engineer). Current section 816.44(b)(2) requires that temporary diversions carry a 10-year 24-hour precipitation event and that

permanent diversions carry a 100-year 24-hour event, and that the channel of the diversion be at least equal to the unmodified stream channel immediately upstream from the diversion. Although the proposed standards would be less stringent than those of the current regulation, diversions designed under the current regulation are commonly able to carry much more flow than the unmodified channel downstream of the diversion. Thus, a storm that would flood the unmodified channel below the diversion would also flood the diversion, even if it was designed to carry flows in excess of the flow causing the flooding. No significant adverse impacts are anticipated from the revision, because the damage due to flooding would be essentially the same under either set of regulations.

Revised section 816.41(f)(2)--diversion of miscellaneous flows--would require essentially the same conveyance design as do the current section 816.4(f). The revised regulations (sec. 816.41(f)) would no longer specify the design criteria and requirements of the current regulations (sec. 816.41(f)(1-5). But they would allow the regulatory authority to specify design criteria and they would require that a registered professional engineer direct construction and maintenance. The change from design according to specific design criteria and general design requirements to design according to standard engineering practices used by professional engineers should not result in any adverse impact for the reasons discussed in the introduction to this chapter.

The revised regulations governing impoundments (sec. 816.49) would have no significant impacts; they continue to require that impoundments not be subject to failure and not contribute to degradation of water quality. Permanent impoundments would be allowed under essentially the same conditions as under the current regulations, and would achieve the same results. The revised regulations would retain the minimum design standards for design, construction, and maintenance for (large) impoundments found in section 5 of the Watershed Protection and Flood Prevention Act (16 U.S.C. 1005) and in the rules of the Mine Safety and Health Administration (30 CFR 77.216)). Although the revised regulations would delete specific design criteria, they would continue to require that a registered professional engineer or other qualified person certify designs and make routine inspection and certification after the impoundment is constructed. This would allow the regulatory authority flexibilty to approve designs that best met local conditions. The proposed regulations on temporary impoundments would not require compliance with the criteria for sediment ponds as does the current regulation; instead, it would require temporary impoundments to meet most of the standards for permanent impoundments. The proposed regulations also differentiate between the regulatory functions of MSHA and those of the Regulatory Authority to avoid unnecessary duplication.

Proposed 816.49(b)(2) would provide standards for smaller impoundments not meeting the criteria of MSHA's 30 CFR 77.216(a). The performance standards of revised 816.49(b)(2)(iv) are based on Soil Conservation Service published standards. These performance levels would meet or exceed the criteria for structures designed and constructed under the Watershed Protection and Flood Prevention Act. No significant adverse flooding should result from the revised regulations.

The regulations governing renovation of structures relating to impoundments, diversions, and related facilities prior to abandonment (sec. 816.56) would be revised only slightly, to emphasize that such structures are to be renovated in accordance with the approved reclamation plan and only where necessary to comply with the plan. This would give the operator the flexibility to suit the

structure to the postmining land use plan. Renovation to achieve postmining land use rather than to meet specified design standards would have no adverse impact, as the design would still have to meet the new requirements for permanent structures.

The revised regulations (sec. 816.82) would no longer require a subdrainage system for all coal processing waste piles, as did original section 816.83(a) (which was suspended); the regulations would, however, continue to require subdrains unless the operator could prove to the regulatory authority that they were not needed. Waste piles could fail if the regulatory authority failed to require subdrains when they were, in fact, needed to ensure stability. But such failures would probably be rare, for the reasons discussed in the introduction to this chapter, and because inspection requirements would be improved.

4. Hydrology

Summary.--The proposed revisions would not cause or contribute to significant impacts on hydrology: the cumulative effects of mining and reclamation under the revised regulations would be essentially the same as the effects under the current regulations (see OSM, 1979, p. BIII-27 to BIII-26), and the revised regulations would continue to protect water quality and quantity so that water would adequately meet anticipated needs. The one potential exception would be the revisions proposed for section 780.21 of the permitting regulations, which would no longer require monitoring of marginal ground-water resources. Toxic or acid mine waters might well contaminate such marginal aquifers, and they in turn might contaminate springs or streams on or near the minesite. The impact would be potentially significant, because it would probably have local but long-lasting effects on wildlife and aquatic vegetation. (See Vegetation; Wildlife.) The likelihood and significance of the impact would depend on how well the operator and the regulatory authority anticipated such potential impacts in the required analysis of probable hydrologic consequences, and on whether the regulatory authority required monitoring of marginal aquifers if the analysis of hydrologic consequences indicated the possibility of impacts.

As discussed in detail below, the net effect of the rest of the proposed revisions, individually and cumulatively, would be very small. The revised regulations would generally give the regulatory authority more discretion. The proposed revisions that would most directly affect water resources are as follows:

- the revised regulations for protecting the hydrologic balance (sec. 816.41 and 817.41) would delete certain design criteria and clarify monitoring procedures;
- the revised coal-mine waste regulations (sec. 816.81 to 816.93) also would delete certain design criteria while strengthening performance standards and relying on regulations established by other Federal agencies;
- the revised regulations for alluvial valley floors (sec. 785.19, 822.11, and 822.12) would delete the specific requirements for detailed information needed to identify alluvial valley floors.

The following two sections consider the cumulative impacts of those proposed revisions that would affect surface water and ground water--specifically, their cumulative effects on the availability of water to meet anticipated needs and the

quality of the water. A third section considers cumulative impacts on alluvial valley floors, and a final section considers general hydrologic impacts.

a. Impacts of Proposed Revisions on Surface Water

This section discusses the cumulative impacts of the proposed revisions on the availability and quality of surface water. As noted above, the revisions proposed for section 780.21 could have indirect but potentially significant impacts on surface-water quality near mines (see ground water section below). Otherwise, the revised regulations would continue to adequately protect surface-water availability and quality.

Section 816.41(e) of the revised regulations would clarify monitoring requirements for surface water (sec. 816.52(b) of the current regulations). The revised regulation would stress the need for basing monitoring requirements on the determination of probable hydrologic consequences (PHC) and would require monitoring to be done according to the plan developed in the permitting process. It would also allow the regulatory authority to require other monitoring. Section 816.41(d) of the revised regulations (which has no exact counterpart in the current regulations) would provide guidance to the industry for protecting surface water. Both of these proposed revisions would slightly reduce the impacts of mining and reclamation on surface water, because monitoring would be designed to provide the data needed to implement corrective measures if the PHC study indicated a potential for serious impacts.

1) Impacts on the availability of surface water

For underground mining beneath or near water bodies (such as permanent streams or major reservoirs), the revised regulations (sec. 817.121) would require the operator to demonstrate to the regulatory authority that subsidence would not damage such water bodies. The proposed revision would transfer the burden of proof to the operator, but the decision would be made on essentially the same information as before: the subsidence control plan would provide at least as much specific information as the "detailed subsurface information" required by the current regulations (sec. 817.126(a)). Therefore, the proposed revision would have no significant impact on such water bodies.

2) Impacts on the quality of surface water

Proposed section 816.41(a) would continue to require that water pollution be minimized and would encourage practices that minimize water pollution and changes in flow rather than the use of treatment facilities. The proposed revision would have no significant impact on water quality, as the revised regulations would continue to have essentially the same requirements as the current regulations.

The revised regulations (sec. 816.42) would no longer specify effluent limitations; instead, they would refer to the effluent limitations and new-source performance standards developed by EPA. The current regulations re-state EPA's standards. Since the reference to EPA's regulations would continue to apply such standards to surface coal mines, the proposed revision would have no impact.

EPA is proposing new effluent limitations for coal mining operations. EPA proposes to require for discharges from treatment facilities (designed, constructed, operated, and maintained to contain the water from the 10-year, 24-hour event

draining from active mining areas and reclamation areas) the same limitations for dry weather (base) flow that currently are required (maximum 1-day limits of 70 mg/L total suspended solids, 4.0 mg/L total manganese, and 7.0 total iron). The proposed regulations, however, would require that during precipitation events equal to or less than a 10-year, 24-hour event maximum settleable solids (SS) content of discharges from such facilities would be 0.5 mL/L, and the pH of the discharge would have to be 6 to 9. During precipitation events greater than the 10-year, 24-hour event only the 6 to 9 pH limit would apply. Under current regulations no limits apply to discharges from such facilities during precipitation events greater than the 10-year, 24-hour event, provided that the treatment facilities are designed, constructed, maintained, and operated as described above.

Although the proposed change to the 0.5 mL/L maximum SS content may allow more solids to be discharged, sediment ponds designed to contain the 10-year 24-hour event typically will not meet the maximum 70 mg/L total settleable solids (TSS) limitation during all precipitation events that are less than the 10-year, 24-hour event. Thus, no real change in the discharge of effluent from mine operations will occur as a result of the proposed change in EPA's effluent limitations. In addition, the runoff from undisturbed lands will generally contain more suspended solids than the discharge from treatment facilities achieving a maximum 0.5 mL/L SS content. The test for settleable solids (SS) has the advantage that it can be simply and quickly run in the field, whereas the test for TSS requires more than 24 hours and can only be run in the laboratory. The use of the simpler SS test will expedite regulatory functions.

Under EPA's proposed regulations, sediment ponds not designed to contain the 10-year, 24-hour event will be subject to dry weather effluent limitations. Such facilities will require additional sediment control measures such as mulching, netting, etc., to avoid violations of water quality standards. Because the effluent standards would remain at least as effective as those of the original (suspended) regulations, the proposed revisions would have no significant impact on water quality.

Proposed section 816.42 would also allow alternative sediment-control facilities to be used in lieu of sediment control ponds or treatment facilities to control sediment from disturbed areas. The proposed revision would give increased flexibility to regulatory authorities to approve such alternative sediment control measures where such measures 1) would not contribute to or cause a violation of water quality standards, 2) would minimize disturbance of the hydrologic balance, and 3) would represent the best technology currently available. The proposed revisions would have no significant impact on water quality, because effluent standards would be essentially unchanged. Allowing for alternative means of sediment control, while requiring unchanged effluent limitations, would likewise be beneficial, by allowing for innovation. (See introduction to this chapter.)

Proposed section 816.46 would specify performance goals for sediment ponds. They would replace sediment pond design criteria and the requirements for sediment ponds of current section 816.46, many of which were suspended in part as a result of litigation. The proposed regulation would require that sediment storage volume be adequate to store accumulated sediment and that sediment removal procedures be sufficient to maintain adequate volume for the design (precipitation) event. The revised regulation also requires that sediment ponds provide sufficient detention time for the inflow of a "design" event to meet applicable effluent limitations. The "design" event of the proposed regulation is to be based on

regional diversity, terrain, climate, and other site-specific conditions. The current regulations effectively require operators to build sedimentation ponds large enough to handle 10-year 24-hour events. If they do not, they must meet the base-flow effluent limitations during rainfall events, which typically is not possible. The revised regulations would, in many instances, permit the use of smaller sediment ponds than those required by the suspended regulations. Regardless of the size of the ponds, the effluent must meet EPA's effluent limitations.

The design, construction, and maintenance of sediment ponds and other sediment control practices under the proposed regulations in combination with EPA's effluent limitation should be as effective as the sediment control requirements of the original permanent regulations in minimizing the adverse water quality impacts of mining. Registered professional engineers would be responsible for designing the ponds and inspecting them during construction, and for certifying that they met standards for effluent quality (sec. 816.46(c)). Using performance standards rather than design criteria, and relying on design by registered engineers rather than design criteria should have no significant impact on water quality, for the reasons discussed in the introduction to this chapter. Requirements for inspection of sediment ponds have been revised in the proposed regulations to be in accordance with the Mine Safety and Health Administration's (MSHA's) regulations (30 CFR 77.216) which requires that structures be inspected once a year. By contrast, the current regulation requires inspections four times a year. MSHA's regulation, however, requires examination of structures for appearances of structural weakness or hazardous conditions every 7 days. The proposed schedule of inspections and examinations should be equal in or superior to the effectiveness of the inspection schedule under current regulations. No adverse impact will result from the implementation of inspections and examinations under the proposed regulation.

The revised regulations (sec. 816.42(a)(2)) would no longer require that sediment control facilities be retained until the untreated drainage from the disturbed area meets the water quality standards of the receiving stream; instead, they would require that sediment control facilities be maintained until the land had been stabilized and revegetated. The proposed revision would have no significant impact on water quality, because the sediment yield from disturbed areas is low once vegetation has been established and the area has been stabilized. In addition, the regulations would continue to require that sediment leaving the minesite be minimized.

The revised regulations would no longer "limit" the size of the area for which topsoil and vegetation could be absent at any one time (sec. 816.22(f), current regulations). One of the goals of that limitation is to minimize sediment yield and thus minimize water pollution. Because the revised regulations would continue to require control of erosion (see Soils) and protection of water quality (sec. 816.42), the proposed deletion would not significantly affect surface water quality.

Under the revised regulations (sec. 816.11(c)), the regulatory authority could require that auger holes be sealed more promptly or less promptly than under the current regulations, using its discretion to best meet local needs. (The current regulations specify that such holes must be sealed within 3 days after completion if they are discharging acid or toxic water and within 30 days if they are not discharging water.) Auger mining would still have to meet hydrologic balance requirements (sec. 816.41(d)), which require that acid and toxic drainage be

minimized so as to protect surface water quality. Consequently, the net effect of the proposed revision would probably be negligible.

The revised regulations (sec. 816.109) would exempt some new mining in previously mined steep-slope areas from the general requirement that mined sites be returned to approximate original contour and that highwalls be completely covered. The proposed revision would encourage remining of previously mined, but unreclaimed, areas. In remining such areas, coal beds exposed during previous mining would be removed; in reclamation, exposed coal would be covered, auger holes produced during remining would be plugged, and highwalls would be at least partly covered. Such remining would eliminate acid mine waters wherever it removed or buried exposed coal seams that were discharging such waters, especially coal seams that had previously been auger mined and especially in the East, where acid mine drainage is most likely. Consequently, the effect of the proposed revision would very likely be a considerable and continuing improvement in water quality, as sources of acid waters were progressively eliminated.

Proposed section 816.109 would also govern reprocessing of coal waste banks. Because many waste banks are along streams, it would not be possible due to space limitations to capture and treat the runoff from the disturbed waste bank. Thus, reprocessing would inevitably contribute to contamination of surface waters. But that contamination would be regulated and it would be temporary; in magnitude and duration, it would be similar to the contamination that would occur from reclaiming waste banks from previous mining under an abandoned mine lands program. Reclamation of such reprocessed waste banks, under the requirements of revised sections 816.81 to 816.88, would greatly reduce the seepage of highly contaminated waters that has occurred in many such banks since they were emplaced. In short, the revised regulations would result in a temporary degradation of water quality followed by a long-term gradual improvement of quality wherever waste banks were reprocessed.

Proposed section 816.41(f)(1)--diversion of perennial and intermittent streams--would replace current section 816.44. Section 816.41(f)(2)--diversion of miscellaneous flows--would replace current section 816.43. Proposed section 816.41(f) would permit the operator, with the approval of the regulatory authority, to divert any flow (including that of perennial and intermittent streams) from undisturbed areas or from reclaimed areas after bond release. The revised regulation would allow essentially the same types of diversions as the current regulations, except that it would no longer prohibit diversions from reclaimed lands after bond release. As the runoff from reclaimed areas is essentially the same as that from undisturbed areas, no adverse impact on water quality would result. Diverting flows from reclaimed areas would reduce discharges into sediment ponds or other treatment facilities, which, in turn, would reduce the size of such facilities and the impacts of installing and maintaining them. Thus, the overall impact of the proposed revision would be beneficial.

Proposed section 816.41(f) would require that diversions be stable and provide protection against flooding and erosion, but it would not specify design standards as does current section 816.44. The design capacity criteria for diversions of miscellaneous flows would be refined to peak runoff for 2-year, 24-hour events for temporary diversions and 10-year, 24-hour events for permanent diversions. Current regulations require design to peak runoff with 2-year and 10-year recurrance interval. The more specific definition of the duration of the flow event should alleviate confusion and reduce the disparity in interpretations made. Proposed

section 816.41(f) would provide much more flexibility to the regulatory authority and to the professional designer than does current section 816.43(f); it would allow the regulatory authority to specify design criteria for diversions and would require that all diversions be "designed, constructed, and maintained" under the direction of a registered professional engineer. The diversions designed by registered engineers under the proposed regulations would be essentially the same as those designed under the design criteria of the current regulations and thus, would be equally effective in controlling erosion and in preventing flooding. The proposed revisions would have a negligible effect on water quality in streams below diversions, as the diversions designed under the revised regulation would continue to be effective in controlling erosion and protecting water quality.

Proposed section 816.41(f) would also allow an operator to divert preexisting water of poor quality away from his mine. Wherever such poor-quality water now flows into streams, it would continue to do so; and such diversions would not affect water quality.

The revised regulations on stream buffer zones (sec. 816.57) would provide the same protection to water quality as do the current regulations.

Proposed section 816.71, at the discretion of the regulatory authority, would require that runoff from areas adjacent to and above excess spoil fills be diverted into stabilized channels designed to safely pass the runoff from a 100-year, 6-hour precipitation event. This would comply with the recommendations of the MSHA. The current regulation requires such diversion channels to pass safely the runoff from a 100-year, 24-hour event. Although the runoff volume and peak of the 6-hour storm may be less than those of the 24-hour storm, structures built to accommodate the 100-year, 6-hour storm, would provide adequate protection to the fill and would not contribute to the degradation of water quality.

Because sedimentation would continue to be governed by other revised regulations, the revisions proposed for the regulations on roads (sec. 816.150 to 816.178; 816.180) would have negligible impact on water quality.

b. Impacts of Proposed Revisions on Ground Water

This section discusses the cumulative impacts of the proposed revisions on ground water. The revision proposed for section 780.21(j) has the potential for significant indirect impact on surface-water quality wherever inadequately moni tored marginal aquifers become contaminated and discharge into surface waters; the impact would probably be local, but very long lived. The impact of the rest of the proposed revisions, however, would be insignificant: the revised regulations would continue to protect the quality and availability of ground water affected by coal mining.

Proposed section 816.41(c) would clarify the requirements for monitoring ground water (sec. 816.52(a), current regulations). It would require ground-water monitoring to be conducted according to the plan approved in the permit application, but it would allow the regulatory authority to require additional monitoring if it felt that mining might adversely impact ground water. The revised regulations would also require that ground-water monitoring data be submitted to the regulatory authority on a quarterly basis or more frequently if required by the regulatory authority. No adverse effects are anticipated: the revised regulations

would require essentially the same pertinent information as the current regulations.

1) Impacts on the availability of ground water

Proposed section 816.41(b)(2)) would require that "water availability be maintained," whereas the current regulations (sec. 816.54) require that water supplies be replaced. The impact of the proposed revision would be insignificant, because the revised regulations would continue to require that ground water of sufficient quantity and quality be available to meet anticipated needs.

Proposed section 816.41(h) (transfer of wells) would replace section 816.53 of the current regulations; it would no longer imply that the regulatory authority was responsible in perpetuity for regulating the transfer or abandonment of wells. Similarly, section 816.41(i) (water rights and replacement) would replace section 816.54 of the current regulations and would continue to require that replacement water be suitable in quality and quantity to meet the needs of the damaged party. The proposed revisions would have no significant impact on the availability or quality of ground water. The transfer of wells would continue to take place in essentially the same way and water supplies affected by mining would be replaced in essentially the same way as under the current regulations.

The revised regulations on subsidence (sec. 817.126 and 817.126(c)) would no longer stipulate that underground mining must avoid disrupting aquifers that serve as a significant source for public water supplies; but section 817.126(b) would continue to require that public facilities be protected from subsidence. Consequently, the regulatory authority would still have to decide whether planned mining would disrupt such aquifers, and, if necessary, to protect them--for example, by prohibiting mining near them or by limiting the percentage of coal to be extracted. Consequently, the proposed revision would not actually reduce the protection afforded to such aquifers or to public water supplies for which they are a source, so it would have no significant adverse impact.

2) Impacts on the quality of ground water

Proposed section 780.21(j) would require submission of a ground-water monitoring plan if the PHC determination required under section 780.21(g) indicates that adverse impacts might occur to a "significant ground water resource."

Proposed section 780.21(j) would require that the ground-water monitoring plan provide for monitoring of parameters that relate to the suitability of groundwater for current and approved postmining land uses. The current regulation (sec. 816.52) requires monitoring of ground-water quality to determine the effects of mining on the quantity and quality of water in ground-water systems on and near the minesite.

Under the current regulations acid or toxic mine waters resulting from mining operations that infiltrated into marginal ground-water systems might be detected before such waters migrated from such aquifers to discharge to and adversely affect seeps, springs, or streams. Under the proposed regulations the movement of acid or mine waters might only be detected in a significant groundwater resource unless the regulatory authority used its discretion under

section 780.21(j) and required such monitoring on the basis of the groundwater quality effects described in the PHC determination.

Marginal aquifers would become significantly contaminated only where acid or toxic forming materials or wastes were not properly handled. Requirements for handling such materials under proposed sections 816.41(b)(1), 816.93, and 816.103 should minimize infiltration of acid or toxic waters to groundwater systems. The mere requirement for monitoring of ground-water systems does not ensure detection of contaminated ground water. As ground water moves very slowly, especially through "marginal" ground-water systems contamination may not be detected in monitoring wells until after it is too late to institute remedial measures and if monitoring wells are improperly located--geographically or stratigraphically--contamination would not be detected. Thus, ground-water monitoring will not in all cases reveal that ground-water systems are being contaminated in time to institute meaningful remedial measures. At some mines, especially those planned for long term operation, properly designed monitoring systems would, however, reveal whether or not the practices used to prevent formation of acid or toxic waters and their migration into ground-water systems were effective. The lack of a requirement in the proposed regulations for the monitoring of all ground-water systems, thus, could result in significant adverse water quality impacts to springs and seeps and to the streams to which the springs and seeps flowed. The resultant adverse effects on surface water quality would adversely affect other resources. (See vegetation, wildlife, and cultural resources).

Proposed section 816.41(g) (drainage from acid-forming and toxic-forming soil) would replace section 816.48 of the current regulations; it would continue to require that acid-forming and toxic-forming materials be handled so as to prevent pollution of ground (and surface) water. The revised regulation would no longer require that such materials be both buried and treated: instead, it would require that they be buried or treated or both, where necessary. The revised regulation also would limit storage of such materials to "the period until burial or treatment first becomes feasible so long as the storage will not result in * * * environmental damage," whereas the current regulations limit storage to 30 days. The proposed revision would have no significant adverse impacts, provided that proper precautions were taken during the storage period (see Introduction to this chapter): the revised regulations would continue to preclude discharge of acid or toxic waters as a result of improper storage, because they would continue to require protection of the hydrologic balance and compliance with water-quality and effluent standards.

Proposed section 816.41(j) would require that water discharged into underground mines be discharged "at a known rate and quality," whereas the current regulation (sec. 816.55(b)) requires that water "be discharged as a controlled flow." The proposed clarification would ensure that relevant information on the quantity and quality of the water would be available if water should ever require treatment or if other offsite impacts were reported. The proposed revision would slightly reduce the impacts of mining and reclamation on ground-water quality: the revised regulations would require information on quality and quantity that would be needed to minimize the adverse effects of discharging water into underground mines, should they occur.

The revised regulations would specify what information on the general physical characteristics associated with the maintenance of ground-water systems and water availability was required for a permit application, but they would no longer specify what hydrologic parameters were required (as specified in section

816.52(a)(1) of the current regulations). The revised regulations would allow the regulatory authority to specify information sufficient to deal with local conditions. The regulations would continue to require that postmining ground-water quality be compatible with postmining land use.

c. Impacts of Proposed Revisions on Alluvial Valley Floors

Proposed section 785.19 would allow the regulatory authority more discretion in specifying what studies must be done and what information is required in permit applications, as a basis for identifying alluvial valley floors (AVF's) and for making the necessary determinations concerning the importance of the AVF to agriculture. The current regulations (sec. 785.19(d)(3)) specify the scope of the studies in detail. Under the revised regulation, the regulatory authority would have the discretion to require a level of analysis based on site-specific conditions; accord ingly, the regulatory authority could require less--or more--comprehensive surveys than under the current regulations. The proposed revisions would not alter the requirement for adequate data to support the AVF determination. Similarly, the permitting procedures under the revised regulations would delete the requirement that a complete permit application be filed before the regulatory authority determined the applicability of the various statutory exclusions. This revious would enable an operator to obtain a determination on exclusions earlier in the permitting process. The operator would have to submit sufficient data and analysis to support the determination, and the regulatory authority could require additional data and analysis if the material submitted was not adequate. Additionally, the regulatory authority could require the operator to submit a complete permit application if necessary. The revised regulations would not change the type of determinations that must be made by the regulatory authority or the level of support fot the determinations for mining on or near AVF's, and therefore there would be no perceivable change in the level of environmental impact.

Proposed section 822.12 would clarify the requirement that an operator need not prevent material damage to the quantity or quality of water supplying an AVF if that AVF was undeveloped rangeland not significant to farming, if the AVF had contributed only negligibly to farm production before mining, or if it had negligible potential to contribute to farm production. Hence, the proposed revision would have an insignificant impact on the availability and quality of water for agricultural use. The proposed revisions would continue to require protection of the essential hydrologic functions of AVF's, although the exact biologic or geologic characteristics would not have to be maintained.

The revised regulations would no longer require the operator to cease mining and take remedial action. However, section 773.17(e) of the revised regulations would require the permittee to take all possible steps to minimize adverse impact on the environment resulting from a violation of any term or condition of the permit. Such steps include the immediate implementation of measures to comply. Thus, the revised regulations would protect AVF's essentially as effectively as the current regulations, and the impacts of the proposed revisions would not be significant.

d. General Hydrologic Impacts

Insofar as the revised regulations encouraged more widespread use of land for "higher and better" uses, they would cause the same sort of hydrologic impacts that typically accompany relatively intensive land uses--namely, increased runoff,

decreased infiltration, and increased potential for contamination. Generally, however, the revised regulations would affect where such impacts would occurred, but they probably would not greatly increase the total area on which they occurred. (See Land Use.)

Proposed section 815.15 would no longer require the operator to measure the important environmental characteristics of an area during exploration. The proposed revision would have no significant impact on hydrology, because environmental measurements made during coal exploration probably are of questionable value in minimizing hydrologic impact (such information is better obtained when exploration operations are not in progress), and because such information would continue to be required in permit applications. Moreover, other parts of this section require that environmental damage be minimized (which is one of the objectives of the current regulations).

Proposed section 816.41(a) would allow the regulatory authority to require measures not specified in the permit application if it deems them necessary to protect the general hydrologic balance. The proposed revision would allow the regulatory authority to tailor information requirements to local hydrologic conditions, and thus would probably have no net impact on hydrology. (See Introduction to this chapter.)

Proposed sections 816.81 through 816.93 (coal mine wastes) advocate "good engineering practice" whereas the current regulations require specific design criteria. The design of measures and facilities used to minimize adverse effects of coal mine wastes under the revised regulations would be essentially the same, and equally effective, as those designed under current regulations. The proposed revisions would have no significant impacts, as the facilities used under the proposed regulation would adequately protect water water quantity and quality.

Revised section 816.83(b) would no longer require that drainage be diverted around coal waste piles. Because MSHA's regulations (30 CFR 77.214 and 77.215) would continue to require such diversion of drainage, the proposed revision would have no hydrologic impacts. Proposed section 816.85 would substitute MSHA's construction standards for coal waste piles as well as the requirements of other revised regulations for the construction standards of current section 816.85. The revised regulations would have essentially the same requirements for waste pile construction as the current regulations, so they would continue to protect the availability and quality of ground and surface water. Thus, no adverse effects are anticipated.

Revised section 816.86 would cover the general requirements for impounding structures for coal mine wastes, which are specified in more detail in current sections 816.90-816.93. Two alternatives are proposed for section 816.90. The first would require essentially what is required by current section 816.92 except that diversions would be designed to carry the peak runoff from a 100-year, 6-hour precipitation event. (The current regulation requires design for the 100-year, 24-hour precipitation event.) MHSA's design design guidelines are for the 6-hour event, and impoundments constructed under the revised regulation should adequately control flooding and protect the structure from the adverse effects of flooding. The second alternative would not include the equivalent of current 816.92 on site preparation and surface diversions in the revised regulations. The second options would require standard engineering practice, as described in engineering handbooks. As such impoundments have to be designed and certified by

registered professional engineers, the site preparation and surface-water diversions of the impoundments would be essentially the same whether or not the requirements of section 816.92 are included in the regulation; hence, no adverse effects on surface water quality or quantity are anticipated if the provisions of current 816.92 are not included in the regulations.

e. Alternatives

If OSM took no action on the proposed revisions, the potentially significant impact on ground water resources (from the revised hydrology permit requirements) would not occur. Nor would that impact occur if OSM modified section 780.21(j) to require monitoring of all ecologically significant ground water sources (instead of just those significant for public use).

5. Soils

Summary.--The proposed revisions would not cause or contribute to significant impacts on soils: the cumulative impacts of mining and reclamation under the revised regulations would be practically indistinguishable from the impacts of mining and reclamation under the existing regulations (OSM, 1979, p. BIII-17 to BIII-26). In general, the revised regulations would continue to adequately protect and preserve soils, and the reclaimed soils would continue to adequately support anticipated postmining uses--notably, support of a diverse and permanent vegetation cover that would control erosion and support of vegetation for agricultural uses.

As discussed below, the proposed revisions, individually and cumulatively, would have very little net effect on soils. (Also see introduction to this chapter.) Very briefly, the proposed revisions that would most directly affect soils are as follows:

- The revised topsoil and revegetation regulations (sec. 816.22-816.24; 817.22-817.24 and 816.111-816.116; 817.111-817.116) would assign more discretion to the regulatory authority;
- The revised backfilling and grading regulations (sec. 816.100-816.106; 817.100-817.106;) would substitute performance standards for design criteria;
- The revised prime farmland regulations (sec. 823.11-823.15) would very locally reduce standards for reconstructing prime farmland soils; the revisions would affect mainly the Midwest, mainly Illinois.

The revisions proposed for other regulations would have less direct and even smaller effects. Because the proposed revisions would not lead to significant impacts, we have suggested no alternatives.

The following sections consider the cumulative impacts of those proposed revisions that would affect the availability of soils for redistribution, those that would affect the quality of the disturbed soils, and those that would affect both availability and quality.

a. Impacts on the Availability of Soils

This section discusses the cumulative impacts of the proposed revisions on the availability of soils to support anticipated uses. Our conclusion is that the revised regulations would continue to protect against soil losses.

The revised regulations (sec. 823.11) would no longer require that prime-farmlands soils disturbed for long-lived facilities (typically, 10 to 40 years) be reconstructed to prime farmland standards; they would require, instead, that soils be handled in compliance with parts 816 and 817. (The operator's reclamation plan would identify how such areas would be reclaimed.) Long-lived facilities include coal-loading structures at or near the minesite, coal- and equipment-storage facilities, preparation plants, and administrative buildings. Although a few acres of prime-farmland soils could be lost on each minesite, the total loss would be vanishingly small relative to other losses--probably less than 0.5 percent of the prime farmlands lost to urban expansion, water projects, roads, etc. This conclusion is based on the following data for the Midwest: From 1980 to 2000, coal mining will probably disturb 127,000 acres of prime farmlands in the "corn-belt" States (Illinois, Indiana, Iowa, Missouri, and Ohio) (Bernard, 1979). If surface facilities occupy 10 percent of each minesite (Grim and Hill, 1974; in addition, this figure consistently appears in the legislative history for SMCRA), then 12,700 acres would be lost; they would account for 0.4 percent of the 3 million acres lost to nonagricultural uses during that same period (Bernard, 1979). Because the revised regulations would continue to require reclamation to the standards of parts 816 and 817, the soils disturbed by mining would not be totally or permanently lost, as they would be if used for nonagricultural uses.

Although the proposed regulations governing permits (sec. 785.17) would be revised and reorganized, they would require essentially the same information for prime farmland soils as the current regulations (sec. 779.27 and 783.27). If the applicant for a permit finds no prime farmlands in the proposed permit area, both the current and the proposed regulations require him to present evidence that supports this finding. The revised regulations would no longer specify criteria for demonstrating that soils are <u>not</u> prime farmlands (as does current section 779.27(b)); instead, proposed section 785.17(b) would require the regulatory authority, to consult with the State Conservationist of the Soil Conservation Service, U.S. Department of Agriculture, and to determine those criteria. Soils that could not be identified as prime farmlands under the current regulations could be identified as prime farmlands under the revised regulations, because the specific criteria for excluding them would be eliminated. Accordingly, the proposed revisions could allow more soils to be protected as prime farmlands, but they would not ensure that this would happen. Under both the current and the revised regulations, the criteria used for identifying lands as prime farmlands would be those of the Soil Conservation Service. Although those criteria could vary slightly from State to State, the effect of the proposed revision would probably be insignificant.

Alternative I of the proposed revisions for the topsoil regulations (sec. 816.22(a) and 817.22(a)) would no longer require the operator to remove and salvage topsoil that was to be only slightly disturbed (for example, by construction of signs and fenceposts or by light traffic over frozen ground) if that disturbance would not destroy vegetation or cause erosion. (Alternative II of the proposed revisions does not consider this issue.) Although small volumes of topsoil would be slightly compacted or scattered on the surrounding surface, a much larger volume of soils would be left undisturbed. It is unlikely that such soils have consistently been

stripped under the existing regulations (sec. 816.22(b)), because it is impractical to remove and store such small amounts. Such losses are small, but they are probably an inevitable result of surface mining, and any attempt to salvage such soils is probably infeasible with present technology. Therefore, the proposed revision would have negligible impact.

With the approval of the regulatory authority, operators would no longer have to replace topsoil so thin that most of it was removed when vegetation was removed (proposed sec. 816.22(b)). In practice, such thin topsoils tend to get mixed with the subsoil when the vegetation is stripped, and they typically cannot be separated from the subsoil--especially when shrubs and trees are removed on steep slopes, mainly in the East. The proposed revisions would allow operators to use mixed topsoil and subsoil (the top 6 inches of unconsolidated material) or other suitable material as substitutes for thin topsoil, which is consistent with the Act and is specified for thin soils in general (proposed sec. 816.22(b)). Because the revised regulations would continue to require that such soils sustain vegetation (sec. 816.22(e)), the effects of the proposed revision would be negligible.

Although proposed sec. 816.22 would no longer require the size of the disturbed area to be "limited," the impact of that revision would be negligible: the existing regulations (sec. 816.22(f)) do not specify the allowable size of the disturbed area, and the revised regulations (sec. 816.23 and 816.24) would continue to regulate erosion from the disturbed area--which is the goal of limiting its size.

Under the existing regulations (sec. 816.23(b)(2)), soil stockpiles may be moved only with the approval of the regulatory authority. Although the proposed regulations (sec. 816.23(b)) have been reworded, soil stockpiles could still be moved only with the approval of the regulatory authority: it would still have to consider any proposal to move ("disturb") a stockpile, whether that proposal was made in the reclamation plan or as a modification to the reclamation plan. Accordingly, the proposed revision would have no effect on the movement of soil stockpiles. Moreover, operators would rarely move stockpiles without a valid reason, simply because of the expense.

The revised regulations (sec. 816.24(c)) would provide flexibility to the regulatory authority to specify that the operator need not replace topsoil on last-cut slopes at the angle of repose or on rock benches and ditches designed to control runoff, if the replaced topsoil could be easily eroded even after vegetation had been established. Such areas typically occupy considerably less than 1 percent of the disturbed area; they occur as strips a few feet wide mainly in road cuts on steep slopes in the East and West, or around last-cut lakes in the Midwest. Because topsoil placed on such areas would be very likely to erode, and because the regulatory authority need not require replacement of topsoil on such areas if it was likely to erode, the proposed revision would greatly reduce loss of topsoil under those conditions. Because the current regulations do not expressly require topsoil replacement on such areas, however, the impact of the proposed revision would be insignificant. Topsoil would still have to be replaced on backfill areas, in compliance with section 515(b)(5) of the Act.

The revised revegetation regulations (sec. 816.114) would require mulch only if the regulatory authority deemed it necessary; the existing regulations require mulch unless the operator demonstrates that alternative measures are equally effective in controlling erosion and reestablishing vegetation. Similarly, the revised regulations would no longer require that reclaimed areas with rills or

gullies deeper than 9 inches be regraded or stabilized (sec. 816.106, existing regulation); the revised regulations would continue to allow the regulatory authority to require that erosion be controlled (e.g., by mulching) before gullies became 9 inches deep. Both revisions would place more responsibility on the regulatory authority, and both would give the operator and the regulatory authority increased flexibility (see introduction to this chapter) in controlling erosion. Because the revised regulations would continue to require generally that erosion be controlled (sec. 816.24) and specifically that vegetation be reestablished to control erosion (sec. 816.24(b)), we believe that the revised regulations would continue to protect against soil loss.

The proposed revisions in road requirements (sec. 816.150-816.180 and 817.150-817.180) would probably have no effect on soils, because the regulations would continue to require the same level of erosion control as the existing regulations, and they would require equivalent design and construction standards (alternative I, sec. 816.152, 817.152; alternative II, sec 816.150(b), 817.150(b)) to ensure the required stability of fills, other disposal structures, and embankments.

b. Impacts on the Quality of Soils

This section discusses those regulations that would affect mainly the quality of reclaimed soils. Our conclusion is that the proposed revisions would have very little effect on the quality of those soils: that is, the revised regulations would continue to ensure that the water availability to plants, the drainage, and the fertility of the reclaimed soils was adequate to support anticipated uses.

The revised regulations would continue to require certain soil tests and allow the regulatory authority to specify additional tests if it deemed them necessary. Proposed section 816.22(e) would no longer require chemical tests for net acidity or for alkalinity, phosphrous and potassium (unless the regulatory authority required such tests); it would, however, require measurements of percent coarse fragments and of soil depth and areal extent, so as to determine the soil water available to plants and the amount of suitable materials available. (The existing regulations do not require these measurements.) Although the required tests would be somewhat different, we believe that they would provide all the information consistently needed for reclamation (whereas the existing regulations do not); moreover, they would continue to readily provide for further testing when warranted. Accordingly, the proposed revisions would have a negligible effect on soil quality.

The revised regulations would no longer specifically require the operator to apply nutrients and soil amendments to the redistributed soil surface layer in amounts determined by soil tests (sec. 816.25, current regulations). The soil tests required by proposed section 816.22(e) would identify the nutrients and amendments needed to support plant growth to meet the approved postmining land use. The proposed revision would have negligible impact, because revised section 816.22(e) would still require that the reclaimed soil medium is the "best available to support revegetation." Moreover, the operator would still be required (sec. 816.24(b)) to establish a vegetative cover, and it would be in his best interest to do so as quickly as possible, so as to obtain bond release.

The proposed backfilling and grading regulations (sec. 816.100-816.106; 817.100-817.106) would no longer require that acid or toxic materials be buried beneath 4 feet of cover; instead, the regulatory authority could specify cover thickness on the basis of the nature of the waste material and the availability of

cover material. The regulatory authority would also have the option of requiring treatment of such wastes. It is probably reasonable to assume that the regulatory authority would recognize and approve effective designs, and that treatment and/or burial tailored to local conditions would prevent degradation of soil quality at least as effectively as categorically requiring 4 feet of cover. (See introduction to this chapter.)

The revised revegetation regulations would no longer require grazing on reclaimed pasture or grazing land before bond could be released. The district court suspended the original regulation (sec. 816.115), which required such grazing, because the Act (sec. 515(b)(19)) does not require such grazing on reclaimed land. The proposed revision might make it somewhat more difficult to test plant vigor before bond release. On the other hand, the absence of grazing animals would reduce the compaction of soils from trampling right after replacement. Accordingly, the revision would probably have very little effect on the capacity of reclaimed soils to support the vegetation required for grazing; whatever effect there was would last perhaps one or two growing seasons and would occur mainly in the West, where grazing is a dominant land use.

The proposed prime farmland regulations (sec. 823.11-823.15) would no longer specify soil reconstruction standards for prime farmlands; instead, they would require the regulatory authority to develop such standards, in consultation with the Soil Conservation Service, U.S. Department of Agriculture. (Those standards would specify the nutrients and amendments and the soil depths to be required and the equipment and techniques to be used to compact soils properly.) Proposed section 823.15(c) would continue to require the operator to grow crops on replaced prime-farmland soils to demonstrate that their productivity had not been changed by mining (as required by sec. 823.14). (Note that the district court (44 F.R. 51549) remanded the original regulation (sec. 823.11(c), 823.15(b)(c)), ruling that OSM cannot require the operator to be a farmer and suggesting that postmining productivity be demonstrated by a soil survey. OSM has appealed that decision, arguing that postmining productivity can be demonstrated only by measuring crop yields on the reconstructed soils. The issue has not yet been resolved.) Proposed section 823.15(c) would also require the regulatory authority, in consultation with the Soil Conservation Service, to specify the techniques to be used to measure the productivity of reclaimed prime farmland soils. Likely techniques would include harvesting a small amount of a crop from the reclaimed site and comparing its yield to that of crops from the surrounding undisturbed area. In short, the proposed revisions would give the regulatory authority the discretion to tailor reconstruction standards and productivity measuring techniques to local conditions. Since the required crop measurements would probably be very similar to those required by the original regulation, they would probably continue to adequately measure postmining productivity. Finally, section 823.14 would still require that the reconstructed soils were as productive as the undisturbed soils, so the revised regulations would continue to ensure that productivity was maintained. Whatever impacts did occur from compaction below the normal tillage level would last until deep-rooted crops were grown or deep tillage employed; impacts would be confined largely to the Midwest, mainly to Illinois, where most prime farmland soils occur.

Two alternatives are proposed for revisions to section 785.17(a). The first alternative would cut off exemptions allowed under the prime-farmlands grandfather clause after August 3, 1982: that is, all prime-farmland soils disturbed after that date would have to be reconstructed to performance standards as effective as the Federal regulations. The second alternative would allow each State 5 years

from the date of the final regulation to establish its own cutoff date. The first alternative would have clearly beneficial impacts, in that it would require generally more stringent reclamation practices in the very near future. The second alternative would indefinitely delay such beneficial impacts; moreover, the impacts would depend on the soil-handling procedures required by the existing State programs and on the amount of prime farmland actually mined in each State while the State was developing its new cutoff date.

c. Impacts on Both Availability and Quality of Soils

The revisions proposed for the topsoil regulations (sec. 817.22) have two alternatives. For alternative I, the revised regulations would be identical for surface and underground mines, and essentially the same as the current regulations. For alternative II, the revised regulations would no longer require the operator to stockpile the soils to be used in reclaiming areas occupied by surface facilities for underground mines. With the approval of the regulatory authority, he could either remove topsoil from such areas and stockpile it (as under alternative I) or spread it over nearby areas in a layer about as thick as the layer that was removed. If it was necessary to use topsoil substitutes and supplemental materials, the operator would be required to identify borrow areas from which he would obtain such materials; he could either stockpile those materials (as under alternative I) or remove and replace them at the end of mine life. Alternative II would slightly improve soil quantity and quality by allowing soils to be used during mine life rather than leaving them stockpiled, typically for at least a decade or two. In addition, it would slightly reduce soil losses, by eliminating the need to move such soils twice and by largely eliminating the slight but inevitable soil (and fertility) losses that would occur between the time the stockpile was graded and the time it was revegetated. (Note that the regulations (proposed sec. 817.23(b)) would continue to regulate erosion.) Finally, the proposed revision would eliminate the slight fertility losses that occur from mixing and from leaching when soils are stockpiled for a long time. This action would benefit the "host" soil in its ability to support vegetation because of the residual nutrients in the added topsoil. Replacement of the "borrowed" soil at the end of mining would require removal of existing vegetation and the likely need to add nutrients to the "host" soil, but it would not result in a significant impact. Similarly, although borrow areas would require revegetation, the net effect of the proposed revision would be negligible.

The revisions proposed for alluvial valley floors (part 822) would have no significant effect on soil quality and availability because they apply to the hydrologic properties of the valley rather than to the soils themselves.

6. Vegetation

Summary.---The revised regulations would not cause or contribute to significant impacts on vegetation: they would continue to protect vegetation from the impacts of mining and reclamation so it could effectively support anticipated uses. Such uses include controlling erosion, protecting the hydrologic balance, providing habitat for wildlife, producing food, fiber, and forage, and maintaining esthetic values. The revised regulations for topsoil (sec. 816.22 to 816.24), revegetation (sec. 816.111 to 816.116), prime farmlands (part 823), and alluvial valley floors (part 822) would have the same basic requirements for reclamation as the current regulations; thus, they would remain as effective in controlling erosion and in protecting soil productivity. Other regulations (see Soils) also would continue to require control of erosion. In general, the revised regulations would continue to

protect water quantity and quality necessary for plant growth, although they would slightly increase the potential for localized but long-lasting impacts to aquatic or riparian vegetation if marginal aquifers became contaminated. The revised regulations affecting revegetation directly (sec. 816.116) would continue to require the operator to establish a permanent cover of native or introduced plant species that would support anticipated uses. Although the revisions might increase or decrease (by a few weeks) the time needed to establish a permanent cover for a desired plant community in some areas, depending on climate and plant-growth habits, a diverse cover of good-quality plant communities would generally continue to be established just as rapidly under the revised regulations.

The revised regulations might well allow for indirect and localized but long-lasting impacts on aquatic or riparian vegetation; such impacts would occur if inadequately monitored marginal aquifers became contaminated and discharged into springs or streams (see Hydrology). Such impacts would be most likely in the northern Appalachians (where acid-forming materials occur) and in the arid West (where saline overburden occurs). The severity of such impacts would depend largely on the concentration and nature of the contaminants--probably acids or toxic materials, including mineral salts. The extent of the impact would probably depend on how rapidly the contaminated ground water was diluted: impacts would be most serious along small streams, where aquatic vegetation would be affected from bank to bank and riparian vegetation within a few feet of the stream. If such impacts occurred, they would probably continue for decades.

The revised regulations would no longer require field trials for introduced species (sec. 816.112 and 817.112), although the regulatory authority could require field trials if it deemed them necessary. In general, the operator's reclamation plan must demonstrate to the regulatory authority that introduced species would be capable of self-regeneration and that they would comply with Federal and State laws, so the revised regulations would continue to ensure a permanent vegetation cover capable of supporting postmining land uses, and the proposed revisions would have no significant impact.

Eliminating the requirement for grazing to test the capacity of reestablished vegetation to support cattle (sec. 816.115, current regulations) would mean that vegetation would be somewhat less vigorous until it was grazed or harvested. (Controlled livestock grazing can increase plant vigor by promoting new growth and reincorporating organic matter into the soil.) In some cases, a heavy or rank, uncontrolled growth could contribute to disease or insect infestation. The likelihood of such effects would depend mainly on growth characteristcs and plant species mix. The proposed revision would not have a significant impact on vegetation, because the regulatory authority could require grazing or mechanical clipping to achieve successful revegetation.

The revised regulations (sec. 816.116(b)) would allow the regulatory authority to specify techniques for measuring vegetation success, so that the techniques would consider local soils and climate. The local standard might result in less--or more--ground cover than the current uniform standard, but the net effect of the proposed revision would probably be small because the regulations (sec. 816.24(b)) would continue to require ground cover dense enough to control erosion. For areas with more than 26 inches of precipitation, the revised regulations would require the operator to measure success during the last year of the 5-year responsibility period, whereas the current regulations require a 2-year average. Reducing the

measurement period would slightly decrease the reliability of the measurement by increasing the likelihood of measuring revegetation success during an atypical year.

The proposed revegetation success standards would no longer specify minimum stocking rates for trees (as does sec. 816.117 of the current regulations); instead, they would allow the regulatory authority to establish rates appropriate for the local conditions and the species being planted.

Deletion of section 816.116(c) of the current regulations would allow the operator increased flexibility in tailoring cultural practices to local conditions, subject to the approval of the regulatory authority; such practices would include fencing, mulching, chemical soil stabilization, and mixing of approved native and introduced species. Although the revised regulations (sec. 816.116(c)(1)) would no longer require cultural practices, the operator would still be required to take whatever measures were necessary to protect revegetated areas from wildlife and domestic animals until bond release. None of the proposed revisions would have a significant impact on vegetation, because the operator would still be required to meet the performance standards for revegetation (sec. 816.116(c)) before the reclamation performance bond could be released.

7. Wildlife

Summary.—The proposed revisions would have significant impacts on wildlife because they would risk adversely affecting wildlife populations of national importance. Although the revised regulations would continue to require best technology currently available to protect wildlife, they would delete specific requirements to protect migratory routes, design raptor-safe powerlines, and protect wildlife from hazardous ponds. This could adversely affect migratory species such as waterfowl and certain large mammals, and large birds such as eagles and hawks. These impacts would occur in States where the regulatory authority did not ensure compliance with the specific technology listed in the current regulation. OSM, through its oversight function, could require those States to modify their design requirements; this would prevent recurrences of the problem, but adverse effects of past practices would remain. Revisions to Subchapter F (areas unsuitable for mining) may allow mining on lands which support critical wildlife habitat. Deletion of the requirement to monitor marginal ground water sources could result in pollution or diminution of waters important to wildlife. The cumulative effect of these revisions would potentially affect wildlife nationwide, particularly in the West, where such species often occur in mining areas. Where new mines were located in important wildlife habitat, the use of wildlife for hunting, viewing, and scientific purposes could be restricted, owing to locally severe long-term population losses. Insofar as the proposed revisions increased the variability of protection given wildlife from State to State, they would reduce the uniformity of the national program anticipated under SMCRA.

Impacts on wildlife would be reduced if the proposed revisions were modified to specify best technology currently available (BTCA) for certain situations (see Alternative C). To avoid all significant impacts on wildlife, however, OSM would have to modify the proposed revisions to avoid significant impacts on land use, which have indirect impacts on wildlife.

a. Alternative A: Proposed Revisions

1) Revisions affecting large birds

The proposed regulations would no longer specifically require that powerlines at mines be designed to avoid electrocution and entanglement hazard to large birds, primarily hawks, eagles, falcons, and other raptors. Those birds often use power poles for hunting sites and feeding perches. Improperly designed power poles are one of the most important causes of death of eagles in the West (Raptor Research Foundation, Inc., 1975). In those States that did not require that power poles be raptor safe, in accordance with the design criteria cited in the current regulations (sec. 816.97(c)), an increased number of raptors would probably die at or near minesites. The eagles, hawks, and other large birds that the current regulations are designed to protect occur nationwide; therefore, the impact could occur wherever mining occurred in the birds' habitat, especially in open areas with few natural perching sites. These birds are protected under the Migratory Bird Treaty Act and the Bald Eagle Protection Act. Further, most of these birds are listed as species of high Federal interest by the U.S. Fish and Wildlife Service owing to losses from shooting, pesticides, and loss of nesting sites. Although the losses to raptors as a result of the change in the regulation cannot be quantified, any marked increase would be of national concern.

2) Revisions affecting migratory species

The revised regulations would no longer specifically prohibit barriers to known and important migratory routes (sec. 816.97(d)). Migratory routes are important to species such as pronghorn, elk, and mule deer that make seasonal migrations essential to their life cycles. Those species are socially and economically important as big game animals and for esthetic appreciation. The extent of losses to such species cannot be quantified because data on population densities, distribution, and known migratory routes are lacking. This impact would be of greatest concern in the Western coal States, where migratory species often occur in mine areas.

3) Impoundments hazardous to wildlife

The proposed regulations would no longer specifically require fencing, covering, or use of other appropriate devices (such as noise scarers) to exclude wildlife from impoundments (ponds) containing materials such as oil, grease, or chemicals that are hazardous to wildlife. (The current regulation (sec. 816.97(d)(3)) specifically requires this.) Species possibly affected include mammals, which use ponds for drinking (especially in the West, where water is often scarce in mining areas), and waterfowl or migratory birds. There is little documentation of such losses; therefore, the number of animals that could be affected is not known. Little can be done to prevent small mammals from using such ponds, so there would be no change in the level of protection for small mammals.

4) Data and planning requirements

The regulations which required operators to collect wildlife data and plan mitigating measures (sec. 779.20 and 780.16) were remanded by the district court and were suspended by OSM on August 4, 1980 (45 F.R. 51548). Information on land use, vegetation, and hydrologic conditions would still be required in permit

applications, and could be used to evaluate premining wildlife habitat about as effectively as the specific baseline studies currently required.

5) Designation of areas unsuitable for mining

The expansion of valid existing rights and revisions to the petition process for designating lands unsuitable for mining would allow mining where it is now prohibited or restricted. (See Land Use.) These lands include national forest and wildlife refuge lands which potentially support important habitat for wildlife species that have economic, esthetic, or ecological importance to the Nation. Surface coal mining on such lands would risk impairing the use of significant wildlife resources. For example, mining in wildlife breeding areas, important migratory routes, or essential security cover could reduce wildlife populations in the area until the original habitat was restored. This could take decades, and some fragile ecosystems could not be completely restored after mining. Additionally, areas that might have been designated unsuitable for mining (under existing procedures) to protect threatened and endangered species might be lost to mining. The extent of such lands that would be mined is not known; however, the risk of adverse impacts on wildlife is probably high.

6) Hydrology permit requirements

The proposed regulations would generally protect the quality and availability of water supplies to fish and wildlife, with one possible exception. Because operators may be required to monitor only ground-water systems that are signifi cant sources for public use, ground-water systems of ecological importance (but not defined as significant) may go unmonitored. (See Hydrology.) This could result in a ground-water-bearing unit polluting a stream, with consequent adverse impacts on wildlife. This could also result in decreased streamflow or destruction of springs and seeps important to wildlife.

7) Postmining land use

Changes in the regulations affecting postmining land use would probably increase the number of postmining land use changes nationally. (See Land Use.) Where land use changed from forest land to pasture, crop, or grazing lands, the loss of diverse vegetative cover would adversely affect those species that depended on forest cover. This would occur most frequently in the south-central States, where forest land is usually reclaimed to improved pastureland.

Where land use changed from habitats valuable for wildlife to urban or commercial uses, the local impact on wildlife would be important. In many cases in the East, mining encourages land use changes that would not otherwise have occurred. If an operator obtained a land use variance but did not actually achieve the proposed postmining use, he would still be required to restore the land to a condition capable of supporting the use intended under the variance. In this event, habitat would be lost until the land reverted to its premining use. The original value of the land for wildlife would be lost for a few years (for some scrub- or grasslands) to a century or more (for mature forests).

The proposed regulations allowing variances from restoration of the approximate original contour (AOC) may allow mined lands, in addition to those considered steep slopes, to be exempt from the AOC requirements. (See Topography.) In the second-growth timber lands of Appalachia, the edge effect and open space created

by mined lands not returned to AOC might benefit wildlife. In the Midwest, this change would result in more diverse wildlife habitat when cropland is converted to wildlife habitat. In the south-central States, however, this change, coupled with that of postmining land use variances, would increase the loss of wildlife habitat that is already occurring in this region. In the West, the impacts on wildlife would be slight, assuming postmined lands are enhanced for wildlife and livestock. These proposed regulations would not result in a significant adverse net effect on wildlife, and could possibly result in beneficial regional effects if soil stability and surface water quality are restored. This conclusion is based on the assumption that "public use," as used in proposed sec. 816.133(e), includes enhanced wildlife habitat.

8) Topsoil and revegetation

The proposed revisions to the topsoil and revegetation regulations are not expected to have significant impacts on fish and wildlife because they would still require that a diverse, effective, and permanent vegetation cover be established on all mined land. (See Soils and Vegetation).

9) Threatened and endangered species

The proposed regulations would continue to require that operators not jeopardize federally protected endangered or threatened plant and animal species, nor harm their critical habitat. Operators would have to report such species when discovered in the permit area. Because specific wildlife baseline studies would not be required, operators would probably use existing data on populations and habitat. Where those data did not disclose such species or their critical habitat, they could conceivably be harmed by mining.

Operators would no longer be required to report species listed only under State endangered species acts. This is a matter of State law and could be included in a State's program or in a Federal program for a State, if appropriate.

b. Alternative B: No Action/Minimum Action

If OSM were to take no action on the proposed revisions, the existing regulations would remain in effect. The impacts of those regulations are discussed in OSM (1979, pp. BIII-72-BIII-81). If OSM took only the minimum action required by court orders, the original performance standards and lands unsuitable program would be retained. This would avoid significant impacts on wildlife.

c. Alternative C: Modify the Proposed Revisions

OSM could require operators to ensure that electric power lines were designed and constructed to minimize entanglement and electrocution hazards to birds. State-of-the-art designs developed by electric utilties can substantially reduce such hazards at little or no additional cost to operators. Further, this would cost operators less than redesigning power poles that proved to be a hazard to large birds.

OSM could require that potential barriers to important migratory routes be designed to permit passage of migratory species. This would minimize adverse impacts to those animals.

8. Land Use

Summary.—Impacts on land use would be significant insofar as the proposed expansion of valid existing rights and restrictions on unsuitability petitions limited the use of public lands for renewable resources. Expansion of VER would allow mining on lands where it is currently restricted or forbidden. The proposed restrictions on the petition process could result in lands being mined that otherwise might have been designated unsuitable for mining. Where such lands were mined, their value for timber, wildlife, recreation, and scenery would temporarily be lost. Although impacts could be reduced by modifying the proposed revisions (alternative C), significant impacts could be avoided only by not making some of the proposed revisions (alternative B).

a. Alternative A: Proposed Revisions

1) Expansion of valid existing rights

The proposed revisions would greatly expand the right of private coal owners to mine in areas designated unsuitable for mining by Congress under section 522(e) of SMCRA. Subject to valid existing rights (VER), mining is forbidden or restricted in national parks, forests, wildlife refuges, and recreation areas; public parks and historical areas; within 100 feet of public roads and cemeteries; and within 300 feet of public parks, buildings, schools, churches, and community and institutional buildings.

The proposed revisions would greatly expand the definition of VER. Where operators had VER, they could mine those lands using strip or underground methods, subject only to the general performance requirements of SMCRA. Option 2 for section 761.5 (the broadest definition) would redefine VER to include all privately owned or leased coal under 522(e) lands (see chapter II, proposed revisions to subchapter F). Approximately 1 million acres of private coal underlie national forests in the East--about 4 percent of the total national forest land there (see table IV-1). Very little of that land currently has VER, because the previous definition required a permit to mine by the date of enactment of SMCRA (August 3, 1977). Relatively few operators had approved permits or had applied for them by that date. Option 2 would also expand VER on non-Federal coal in those buffer zones established under section 522(e)(4) and (5) of the Act.

Public lands in the West would be less affected by the proposed expansion of VER, because nearly all of the coal under lands designated unsuitable for mining is federally owned. A significant amount of VER would not be created, for example, in national parks or wilderness areas because the coal under them is almost all Federally owned. VER would be created on about 110,000 acres of national forest land in the West, primarily in Utah, Wyoming, Montana, and Colorado (table IV-1). The leased coal in Utah and Colorado is mostly underground reserves. Underground mining is allowed on national forest land if the Secretary of the Interior finds that its surface effects would not be incompatible with the use of significant timber, economic, recreational, or other values. The leased coal in Wyoming is mostly strippable reserves in the Thunder Basin National Grassland. Surface mining is allowed west of the 100th meridian subject to the same compatibility test as underground mining, if there is no significant forest cover and the Secretary of Agriculture determines that such mining is consistent with various resource management laws. The private coal in Montana comprises about 16,000 acres of strippable reserves in the Ashland Division of the Custer National Forest, which

was specifically declared unsuitable for mining (subject to VER) under section 522(e) of the Act.

Option 2 for section 761.5 would also create VER on about 73,000 acres of national wildlife refuge lands, primarily in Montana and North Dakota, with smaller amounts in Mississippi and Michigan. (See table IV-2).

Option 3 for section 761.5 would expand VER almost as much as option 2; it would differ by allowing strip mining only where the document conveying ownership or lease specifically allowed strip mining methods to be used. This would expand VER as much as option 2 in all States except Kentucky. In that State, coal ownership deeds convey the right to mine by whatever method the operator chooses to use. In other eastern States, courts have held that this "broad form deed" is not legal; in those States options 2 and 3 would have the same effect. Kentucky contains 100,000-200,000 acres of the national forest land that could be strip mined under option 2 but not under option 3.

Option 1 for section 761.5 would revise the definition of VER the minimum necessary to meet the district court's order, which would establish VER where the operator had applied for all necessary permits to mine by the date of enactment of SMCRA (August 3, 1977). Because relatively few permit applications were being considered in areas designated unsuitable for mining at that time, this option would open very little land to mining that was not open under the existing definition. Impacts on land use would consequently be minor.

A new paragraph is proposed for section 761.5 under all three options that would establish VER where no reasonable use of the property would remain if mining were not allowed. VER would be found where the operator could not mine the coal using alternative means, such as access from neighboring private lands. This would probably expand VER on Federal lands nearly as much as option 2, because in most cases it probably would not be possible to mine the coal without disturbing some Federal surface. VER would also be created in buffer zones established under section 522(e)(4) and (5) of SMCRA.

Several revisions to section 761.5 would clarify how VER is applied. The revisions clarify that the Act's 522(e) prohibitions would not apply to private inholdings on the national forests; that new parks, wilderness areas, or other areas or structures qualifying under section 522(e) would not stop existing mining; and that where possible, State statutory or case law would be used to interpret documents conveying ownership rights. These clarifications probably would not greatly expand VER because few buildings or roads would be constructed adjacent to existing mines.

Other revisions to section 761.5 would narrow the definition of publicly owned parks, opening additional lands to mining. This could include, for example, certain game lands in Pennsylania which are considered public parks under the existing regulations. The State does not own the mineral rights to those lands; mining was permitted before the existing regulation was adopted and would be again under the proposed option. The extent of this impact is not known.

It is not possible to tell what lands would actually be mined as a result of expanded VER; much of it probably could not economically be mined. The immediate effect would be small because of the lagging demand for coal nationally; the effect would probably be limited to those mines for which

Table IV-1.--Potential valid existing rights that would be created in the National Forest System

	National Forest System (acres)	Non-Federal coal rights		
		Acres	Percent	Remarks
Alabama	644,432	16,152	3	Acreage is in Bankhead District of Bankhead NF.
Alaska	23,167,542	0	0	
Colorado	14,430,773	[1]21,166	0.1	560 acres are strippable.
Illinois	261,357	28,242	11	Most of the coal would be deep mined.
Indiana	188,013	NA	NA	Perhaps 8 percent has non-Federal coal rights.
Kentucky	670,340	452,000	67	Perhaps 30-50 percent is strippable.
Montana	16,762,855	25,775	0.2	Acreage is in Custer NF, of which 16,135 acres are in Ashland Division.
Ohio	176,775	105,600	60	25 percent is strippable, 50 percent is deep minable, 25 percent is of low value or previously mined.
Pennsylvania	509,388	99,840	20	Coal areas generally considered to have low commercial potential.
Utah	7,990,161	[1]58,911	0.7	9500 acres are strippable.
Virginia	1,627,082	43,500	2.7	Most coal would be deep mined.
West Virginia	968,985	270,000	28	Most coal would be deep mined, but substantial surface disturbance could occur due to topography and geology.
Wyoming	9,254,534	[1]3,960	negligible	3,280 acres are strippable.

Table IV-1.--Potential valid existing rights that would be created in the National Forest System--Continued

	National Forest System (acres)	Non-Federal coal rights		
		Acres	Percent	Remarks
Eastern U.S. (roughly east of 100th meridian, including Texas and Oklahoma)	24,232,947	1,015,334	4	Acreage accounts only for eastern states listed.
Western U.S.	144,214,610	109,812	negligible	Acreage accounts only for western states listed.
Total U.S.	190,719,090	1,125,146	0.6	Acreage accounts only for states listed.

[1](Leased Federal coal; does not include PRLA's)

Table IV-2.--Potential valid existing rights that would be created in the National Wildlife Refuge System (Source: U.S. Fish and Wildlife Service)

National Wildlife Refuge System		Non-Federal coal rights	
Unit	Acres	Acres	Percent
Montana			
Medicine Lake NWR[1]	22,824	800	4
Musselshell WPA[2]	400	400	100
Yellowstone WPA	486	486	100
Daniels WPA	908	139	15
Roosevelt WPA	1,186	179	15
Sheridan WPA	14,035	4,834	34
Flathead WPA	3,919	1,208	31
SUBTOTAL	43,758	8,046	18
Other NWRS units	1,097,143	0	0
STATE TOTAL	1,140,901	8,046	1
North Dakota			
Lake Zahl NWR	3,744	1,169	31
Lostwood NWR	24,810	640	3
Des Lacs NWR	14,069	1,126	8
Upper Souris NWR	32,092	320	1
Shell Lake NWR	1,835	54	3
McLean NWR	760	240	32
Lake Nettie NWR	2,895	2,261	78
Lake Ilo NWR	4,033	100	2
White Lake NWR	1,040	160	15
McLean WPA	20,951	3,328	16
Sheridan WPA	30,677	4,648	15
Ward WPA	39,044	5,034	13
Burke WPA	26,788	3,177	12
Divide WPA	43,664	6,637	15
Williams WPA	12,373	2,519	20
Mountrail WPA	34,061	6,155	18
Bottineau WPA	28,446	1,464	5
McHenry WPA	27,583	2,603	9
Renville WPA	12,596	183	1
Rolette WPA	24,439	3,515	14
Burleigh WPA	29,855	2,696	9
SUBTOTAL	415,755	48,029	12
Other NWRS units	853,688	0	0
STATE TOTAL	1,269,443	48,029	4

Table IV-2.--Potential valid existing rights that would be created in the National Wildlife Refuge System (Source: U.S. Fish and Wildlife Service)--Continued

National Wildlife Refuge System		Non-Federal coal rights	
Unit	Acres	Acres	Percent
Michigan			
Shiawassee NWR	8,984	6,312	70
Kirtland Warbler NWR	240	40	17
Jackson WPA	160	160	100
SUBTOTAL	9,384	6,512	69
Other NWRS units	96,269	0	0
STATE TOTAL	105,653	6,512	6
Missouri			
Swan Lake NWR	10,669	502	5
Other NWRS units	44,606	0	0
STATE TOTAL	55,275	502	1
Mississippi			
Morgan Brake NWR	1,331	289	
Hillside NWR	15,406	9,721	63
SUBTOTAL	16,737	10,010	60
Other NWRS units	91,316	0	0
STATE TOTAL	108,053	10,010	9
Pennsylvania			
Erie NWR	7,994	190	2
Other NWRS units	898	0	0
STATE TOTAL	8,892	190	2
Continental U.S. (all NWRS units)	12,739,824	73,289	1
Alaska (all NWRS units)	76,058,931	0	0
U.S. TOTAL	88,798,755	73,289	0.1

[1]National Wildlife Refuge.

[2]Waterfowl Production Area.

applications would have been approved had the proposed definition of VER already been in effect. Much of the national forest land where VER would be created is remote from market areas and coal transportation areas. Because of these uncertainties, the analysis of impacts focuses on option 2 as a worst case, as required by the CEQ regulations (40 CFR 1502.22).

On public lands that were mined as a result of expanded VER, impacts would be locally significant. Mining forest lands, in particular, temporarily disrupts the use of the land for recreation, wildlife habitat, scenery, and other renewable resources. Timber production would also be halted until the land were reclaimed to a condition capable of supporting forests. Any cultural resource sites on such lands could be lost. Following reclamation, much of the land's value for renewable resources would be restored, but some long-term reduction in scenic, recreational, wildlife, and timber values would result. Any mining that occurred on wildlife refuge land would be at least locally significant for similar reasons, and could well be regionally significant if migratory birds were affected.

Mining in the buffer zones around roads, houses, community and institutional buildings, public buildings, and cemeteries would also be locally significant. For example, residents of communities in mining areas would face mining very close to their homes, instead of 300 feet distant.

From a national perspective, the loss of a few hundreds or even a few thousands of acres of forest and wildlife refuge land would be significant only if those lands contained unique or highly valuable resources such as rare wildlife or unusual scenic views. Because it is not possible to predict where VER would be exercised by the coal owners, the severity of the impact can only be guessed at. With up to 1.2 million acres of public lands opened to mining, there is a considerable potential for either a large amount of land to be mined, or an area of national significance to be mined. In either case the impact on land uses could well be significant, in that the anticipated uses of the land for renewable resource production (as specificied in the acts governing management of those lands) could well be substantially impaired.

2) Revisions to petition process on Federal lands

Current part 769 allows citizens to petition to have Federal lands designated unsuitable for mining. (Federal lands here includes all lands underlain by Federal coal where mining would affect the coal, whether the surface is Federally or privately owned, and includes approximately 500,000 acres that have been leased but do not have approved mining permits (BLM, 1979, and Office of Technology Assessment, 1980)). Deleting part 769 (alternative 2 for that part) could have adverse environmental effects on those lands if other Federal reviews of proposed leasing and mining did not address environmental values which could have been raised in petitions. However, BLM review of lease tracts, OSM or State review of mining plans, and mandatory NEPA reviews together would probably address all issues that would likely be raised in petitions, based on petitions filed with OSM to date. (See table IV-3.) Deleting the petition process could still have indirect environmental impacts because it is qualitatively different than other reviews.

The BLM's review of potential coal lease tracts assesses land to be unsuitable for mining if it meets any of 20 criteria (43 CFR 3461). The criteria for unsuitability petitions are more general. Mine plan reviews further evaluate the environmental impacts of coal mining, but may not cover all resources that can be

Table IV-3.--Comparison of issues raised in unsuitability petitions with issues considered in existing Federal leasing and mine-plan reviews

(References: OSM (1980a, 1981, 1982c, 1982d))

Unsuitability petitions*		Existing Federal reviews		
Issues raised	Number of petitions	BLM unsuitability criteria	OSM mine plan review	OSM NEPA review
Reclamation	3		X	X
Ground-water hydrology	4	X	X	X
Surface-water hydrology	4		X	X
Alluvial valley floors	1	X	X	X
Endangered species	2	X	X	X
Unique or fragile species	3	X		X
Recreation	2			X
Air quality	1		X	X

*(Five petitions have been submitted.)

addressed in unsuitability petitions. Petitions filed to date with OSM (table IV-3) have raised some issues outside the scope of mine plan reviews, typically concerning resource values outside the proposed mining area. However, offsite values are addressed in the required NEPA review of mine plans (through environmental analyses or EIS's). Furthermore, EIS's must meet rigorous tests of adequacy (as specified by the CEQ regulations (40 CFR 1500 et seq.) and OSM's own guidelines).

The petition process, however, provides additional assurance that important environmental values are not unnecessarily lost to mining. Review of petitions is not entirely comparable with mine plan and NEPA reviews; the former determine whether an area should be mined, whereas the latter focus more on how an area can be mined with minimum impact. Because citizens can originate petitions, the process provides for additional public participation that can bring new information to the attention of the decisionmaker. The petition process can supplement the planning process of the surface managing agency, and can help ensure that facts and values concerning important land resources are not overlooked. In practice, petitions have served as an appeals procedure to the BLM leasing process. Deleting the petition process raises the possibility that a coal tract could be leased--effectively committing it to mining in most circumstances--where a petition could have resulted in the same area being declared unsuitable for mining. The subsequent mine plan or NEPA reviews might not identify issues raised in the petition. For example, in 1980 several citizen groups successfully petitioned the Department to have a portion of the Alton coal lease area in southern Utah declared unsuitable for surface coal mining on the grounds that mining would impair, among other things, the scenic view from a popular overlook in Bryce Canyon National Park. The potential impact on that scenic resource was not identified in the regional EIS that covered the Alton lease areas (U.S. Department of the Interior, 1979).

A side effect of deleting Part 769 would be a probable increase in petitions filed with State regulatory authorities where State, Federal, or private lands formed logical mining units (such as in the Green River-Hams Fork region of Wyoming and Colorado). This might be done in an attempt to prevent mining of Federal coal by having intermingled coal under State or private ownership declared unsuitable for mining. This would increase the workload on State regulatory authorities that would process such petitions. The extent of the increase is not known, and it would have no discernable environmental impacts.

Alternative 1 for part 769 would retain the existing process with minor revisions and would limit it to areas already leased or studied for leasing, and preference right lease applications (PRLA's). This would not significantly affect land use because the petition process would remain open. Revisions to section 769.13 would require that petitioners relate their interests to specific areas in a petition. It would also require a listing and notification of property and mineral owners in the petition area. This would require increased effort of petitioners, and would tend to discourage petitions for very large areas with numerous property or mineral owners. This would have no discernable environmental effects because there is no known connection between the area covered in a petition and the environmental isues addressed; indeed, the revision might encourage better-focused petitions.

Revisions to section 769.14 propose criteria of sufficient merit, completeness, and ripeness for petitions on Federal lands. These revisions would not likely

discourage petitions because the criteria OSM now uses to determine the validity of petitions inherently include the proposed criteria. Revisions to section 769.17 (hearing requirements) are not expected to substantially decrease the number of petitions received (see Social Conditions).

3) Revisions to petition process on State and private lands

Proposed revisions to section 764.13(a) would restrict the number of people eligible to file petitions to have State or private lands designated unsuitable for mining. To be eligible, a person would have to have a property interest in land or mineral resources that is or would be adversely affected by mining. On State lands, this would preclude petitions except by State agencies or by persons owning property adjacent to the State land that could be adversely affected. On private lands, the effect would probably be similar; although property owners could theoretically petition to have their own land declared unsuitable, this would probably not occur in practice because they could simply refuse to consent to mining.

Option 1 for section 764.15(a)(8) would allow the regulatory authority to not process petitions filed after permit applications have been received. This would restrict the ability to petition in States that chose to make this provision part of their programs.

These revisions, but particularly the former, would make it difficult for citizens to petition to protect recreational, scenic, wildlife, and cultural resources on State and private lands. It would also be difficult to petition solely on the grounds that the land could not be reclaimed. (All of these issues have been raised in petitions filed to date.) Permit reviews would not necessarily address all of these issues, especially in those States that do not have their own EIS requirements. As a result, there would be an increased risk that mining on State and private lands would irreparably damage those resources. Revisions to section 764.17 would have similar effects to revisions to section 769.17 (hearing requirements).

4) Revisions to petition criteria

Proposed option 2 for section 762.5 would narrow the definition of fragile lands and historic lands (categories of lands that can be designated unsuitable) to encompass only areas containing "important" natural, ecologic, scientific, or esthetic resources that could be "irreparably and significantly" damaged by mining. (Added words are in quotations.) This would preclude petitions only for those lands where such resources were not important or where they would only be temporarily damaged by mining. Any impacts on land uses as a result of these revisions would, by definition, be temporary and minor.

5) Revisions to performance standards

Other revisions, including revisions to the performance standards (subchapter K), would have negligible impacts on land use and would not measurably contribute to the potentially significant impacts of revisions to Subchapter F. See also the cumulative environmental analysis on those revisions (OSM, 1982a).

The proposed revisions to the regulations governing postmining land use (section 816.133) would encourage alternative postmining land uses, if the

regulatory authority judges them higher and better than the premining use. Such a change would most likely occur, for example, as a residential housing development in the Appalachian region, generally near urban areas or commercial zones where demand is greatest. Under the existing regulations, land use changes in the Appalachian region have been observed for only 3.1 percent of the mines granted permits in 1978 (see OSM, 1982a, table IV-3). Assuming that the total area of land use changes corresponds to the number of mines, and allowing for some increase in the number of changes due to the revisions, changes in land use following mining are anticipated to occur on less than 10 percent of the land disturbed by mining annually. This would amount to less than 10,000 acres nationwide in 1980. Compared to the approximately 3 million acres lost annually to urbanization, the changes in land use from surface coal mining (with or without the proposed revision) would not be significant.

Changes in land use could be locally undesirable if a proposed alternative use were approved by the regulatory authority and not implemented, owing to changes in demand or other reasons. In such a case, mined land would be reclaimed to neither the proposed postmining use nor the original use. This would most likely occur for proposed commercial developments (such as housing) for which demand was insufficient; in such cases, empty lots might remain after bond was released. This would have adverse esthetic impacts, and the original use of the land would be lost, but it probably would not contribute to other environmental degradation because the operator would still be required to stabilize the area. The requirement that the regulatory authority review the feasibility of the proposed alternative use would limit such cases.

If the proposed alternative use was implemented, it could in some cases displace or preempt that use elsewhere in the area. Where this happened, the net effect on land use would be negligible, and in some instances would be beneficial. For example, housing built on a wide terrace bench in steep Appalachian terrain would tend to preempt new housing construction in valley bottoms, which would be subject to flooding, or on unmined steep slopes, which would be subject to cut-and-fill slope failure.

The revised prime farmlands regulations would no longer specify criteria (sec. 779.27(b), current regulations) for demonstrating that certain lands are <u>not</u> prime farmlands; instead, proposed section 785.17(b) would require the regulatory author ity to consult with the State Conservationist of the Soil Conservation Service, U.S. Department of Agriculture, and to determine those criteria. Under the revised regulations, soils that were not classified as prime farmlands under the current regulations could be classified as prime farmlands, because the specific criteria for excluding them would be eliminated. This could allow more soils to be classified as prime farmlands, but it would not ensure that. Under both the current and the revised regulations, the criteria used for deciding would be those of the Soil Conservation Service. Although the criteria for excluding lands as prime farmlands would vary from State to State, the effect of the proposed revision would probably be insignificant.

b. Alternative B: No Action/Minimum Action

If the Secretary were to take no action on the proposed revisions, the existing regulations would remain in effect. The existing level of environmental protection would be maintained. (See OSM, 1979, pp. BIII-84-89.)

Significant impacts on land use could be avoided if OSM revised section 761.5 the minimum necessary to meet the district court's order (option 1 for VER), and did not revise the remainder of Subchapter F. Some proposed revisions could be made without significant impacts, notably alternative 1 for part 769 and the relatively minor revisions to part 764 (those other than to section 764.13(a). This would also eliminate the significant indirect impacts on esthetics, and would reduce indirect impacts on wildlife.

c. Alternative C: Modify the Proposed Revisions

OSM could adopt a policy of pursuing coal exchange or purchase for all proposed mining on 522(e) lands that involved VER. This would ensure that alternatives to mining the areas were considered, but it would very likely encourage holders of VER on such lands to propose mines solely with the intent of having the government purchase the coal rights. This alternative would probably avoid significant impacts, but would be prohibitively expensive.

OSM could adopt a policy of requiring an EIS for any mine plan on 522(e) lands where VER was claimed. This would allow OSM to evaluate the significance of impacts on the area to be mined, obtain public views on the area's importance, and consider alternatives such as buying the private coal rights or exchanging other Federal coal in areas that could be mined with less impact. This would give OSM flexibility to pursue trades or purchases in environmentally sensitive areas. Some, perhaps most of the public lands where new VER was created under the proposed redefinitions could be mined without unacceptable environmental damage, if protective stipulations were applied. In cases where an operator obtained VER under especially valuable public lands (such as important natural, recreational or historical areas), the EIS might show that buying or trading the coal rights was the only way to prevent significant environmental impacts, in which case that option could be pursued. This would be a more flexible, less costly, and perhaps more effective approach than an automatic policy of pursuing purchase or trade in every case of VER on public lands.

OSM could adopt a policy of preparing EIS's on any mine plan on Federal lands (including private lands underlain by Federal coal), in order to mitigate the impacts of ending the petition process on those lands. (This would be a change from existing OSM policy, which requires a case-by-case determination.) The EIS would be the most effective way to consider environmental all values affected by mining, and would ensure public participation--both of which are strengths of the petition process. This would still save OSM from processing petitions, and would incorporate many of the same reviews into the existing NEPA review procedures. However, this would not ensure that all environmental values were considered before coal was leased or mine plans proposed--when it is most feasible to set aside an area of high environmental concern from coal mining. To accomplish that, OSM could request the Bureau of Land Management to expand its criteria for unsuitability to include all issues that could be raised in petitions. This would help ensure that all important environmental values are considered before a coal tract is leased, although it could remove some tracts from leasing unnecessarily.

9. Social Conditions

Summary.--Impacts on social conditions would not be significant: the proposed revisions would not substantially worsen the social impacts commonly experienced in mining communities, and there would continue to be opportunities

for public participation in decisions affecting which lands are to be mined. The expansion of valid existing rights to mine coal near certain buildings and near cemeteries would cause locally adverse impacts, but is not expected to cause significant social disruption from a national perspective. Because the proposed revisions would not lead to significant impacts, we have suggested no alternatives.

a. Alternative A: Proposed Revisions

1) Population

The proposed expansion of valid existing rights and revisions to the petition process for designating areas unsuitable for mining would slightly increase the extent of mining nationwide (see Land Use). Where a new mine opened in a rural area, the influx of population attributable to the mine could strain community facilities and cause social disruption. The impacts would be of the sort commonly experienced by small communities where new mines are opened; for a description of these impacts see Leistritz and Murdock (1981); also see various EIS's for mines in the rural West (such as OSM, 1980). It is unlikely that many mines would open in one area at one time as a result of the proposed revisions; the severe social impacts predicted for rural areas where mining is clustered (see for example U.S. Department of the Interior and Montana Department of State Lands, 1979) would be unlikely. The proposed revisions to VER and petitions would not significantly increase the total amount of mining nationally; therefore, the impact would be one of extent more than degree.

Social conditions that depend on population, notably the supply of and demand for community services and facilities (such as education, health care, water and sewer, and recreation) would not be affected because the proposed revisions would not induce major changes in growth patterns.

2) Public participation

Revisions to the petition process for designating lands unsuitable for mining (Parts 764 and 769--see Land Use) would decrease the number of petitions submitted to OSM and would decrease opportunities for citizen-initiated public involvement in decisionmaking. However, OSM would continue to require opportunities for public participation in permit decisions, citizen complaints in inspection and enforcement, and petitions for rulemaking. The revisions proposed for the petition process would also require that citizens submitting petitions provide additional information, demonstrate standing, and bear the burden of proof of their allegations. This could discourage some citizens from submitting petitions, although the additional information provided could help ensure better decisions.

Option 2 for section 769.17 would allow cross-examination of expert witnesses in a petition hearing; this would not discourage public participation because expert witnesses are generally prepared for and accustomed to cross-examination. Option 3 would allow cross-examination of all witnesses; this could discourage some citizens from speaking at hearings, but they could still submit information in writing so that it would not be overlooked.

The expansion of valid existing rights (VER) on lands declared unsuitable for mining under SMCRA could result in expanded mining of national forests, wildlife refuges, and buffer zones (see Land Use). This would adversely affect the

psychological well-being of individuals by decreasing their sense of influence over the management of those lands.

3) Land uses

The expansion of VER would allow additional mining close to roads, homes, schools, parks, public communities and institutional buildings, and cemeteries. Subsection 522(e)(4) and (5) of SMCRA established buffer zones to protect such areas, subject to VER. This proposed expansion would cause adverse impacts to affected families and communities, including increased noise and vibration from mine equipment and blasting. The impact would be highly localized, and would most commonly occur in the East, where mining of private coal close to such buildings occurs most often.

Changes in the regulations governing postmining land use (see Land Use) would require the regulatory authority to closely monitor alternative postmining land uses. If this were not done, more sites could be prepared for alternative uses than were called for by market demand. For example, demand might not grow sufficiently to make changes in land use profitable for every operator requesting approval of such changes. The number of proposed alternative uses for, say, housing sites in West Virginia's coal mining areas might increase faster then demand for them. If this were the case, some communities, counties, or States may experience a loss of the social value of the land. For example, if a mined area were not returned to its original use (such as forest), and instead is prepared for residential buildings that ultimately were not constructed because of lack of demand, failure to receive financing, or other reasons, the existing recreational, esthetic, and wildlife resources of the forest would have been lost. Changes in land use caused by changes in the postmining land use regulations are predicted to be less than 10 percent of all acreage mined in the U.S. (see Land Use). In comparison to community losses suffered as a result of other land use failures (such as high interest rates or bankruptcies), land use changes due to the revised regulations would not have a significant impact on social conditions.

4) Public health and safety

The proposed revisions would not significantly affect public health and safety. The revised regulations would generally maintain the safety criteria of the current regulations. In addition, the general adequacy of designs (such as impoundments and waste piles) would be adequate (see Geology and Hydrology).

Because the revised regulations would no longer categorically prohibit night blasting, people living close to mines might experience discomfort and irritation. The effect would be ephemeral, and it would probably occur only within a few miles of active mines. It would be most pronounced in the East, where mining occurs in populated areas. The revised regulations (sec. 780.13) would no longer prohibit blasting within 1,000 feet of residences and public buildings, and within 500 feet of underground mines. The operator would still have to submit information on drill patterns, delay periods, decking, type and amount of explosives, and other factors. The options proposed to govern ground vibration set performance levels below the threshold of structural damage to buildings. The revised regulations would continue to maintain limitations on airblast and peak-particle velocity; and they would allow the regulatory authority to limit blasting if severe problems occurred. Citizens could still enact local zoning or other ordinances to control noise from blasting. Although blaster certification programs

under the revised regulations might vary somewhat from State to State, the requirements for protecting health and safety would remain essentially unchanged, because OSM would have to approve such programs.

10. Economic Conditions

Summary.—The proposed revisions would not cause significant changes in employment, shifts in industry's methods of production, or changes in demands on community facilities. (See OSM, 1979, and documents on economic impacts prepared in response to Executive Order 12291, which are contained in the Administrative Record.) Because the proposed revisions would not lead to significant impacts, we have suggested no alternatives.

a. Alternative A: Proposed Revisions

1) Costs to local governments

In order to effectively administer the proposed land use regulations (see Land Use) and prevent a potential loss of the economic and social values of lands, the State regulatory authorities would have to consolidate economic and land planning data from a variety of sources, including their planning and economic staffs. The data would have to be analyzed to determine whether proposed alternative land uses met the criteria of reasonable likelihood, implementation, safety, and practicality (see Land Use). Some States may not have the necessary expertise to do this; however, subject to Congressional approval, OSM can fund up to 50 percent of the cost of implementing these regulations, making the availability of such expertise reasonably likely.

Some additional work by State regulatory authorities would be required to implement proposed changes in the regulations governing inspection and enforcement, self bonding, blasting, and blaster certification; but such increases would not be large in comparison with the total workload requirements of the permanent regulatory program. A best estimate is that the total workload would increase no more than about 15 percent. In addition, OSM has programmed $33.4 million for grants to States in FY 1983 which will help to defray States' operating expenses.

2) Public land values

Allowing mining in areas that may have high national and local importance (as a result of revisions to the regulations on areas unsuitable for mining) would have economic effects. Mining in national forests, for example, may pose problems in restoring the land's value for producing long term renewable resources such as wood products, wildlife, water, and recreation. Reclamation failure or a diminution of the land's capacity to support forests would, in effect, trade a long-term economic use for a short term benefit (increased coal recovery). Reclamation would restore the lost uses, but this could take many decades (for example, to restore the value of timber stands for recreation or wildlife). This impact would not be strongly localized (see Land Use), and it would probably not be so common as to cause significant disruption of regional economic conditions.

3) Prime farmlands

The options proposed to establish a cutoff date for the prime farmlands grandfather clause (see Soils and Vegetation) would require that all prime farmland

mined after that date be restored to the prime farmland standards of the Act (section 515(b)(7)). This would help preserve the nation's prime agricultural lands and would, in local instances, protect farming lifestyles. Mining on prime farmlands has, in some instances, disrupted the economic base of local communites that depend on farmland that is underlain by coal (Bernard, 1979). Those impacts would be minimized under the proposed regulations because prime farmlands would have to be restored to their premining productivity after mining.

The general trend of converting prime farmlands to other uses would continue regardless of the regulations; mining contributes only a small part of the total prime farmland conversions nationally. For example, if the entire 13,800 acres of prime farmland affected annually by surface mining in Illinois, Indiana, and western Kentucky were lost to farm production (which is unlikely under either the existing or proposed regulations), the total acreage lost over a 30-year period would be 414,000 acres. Assuming that the total loss came from corn production, the decrease in productivity during the 30-year period would be less than 1 percent of the 1976/77 national yield (Report of the Interagency Task Force on the Issue of a Moratorium or Ban on Mining in Prime Agircultural Lands, 1977, p. 21).

11. Cultural Resources

Summary.--Impacts on cultural resources would be significant because the proposed revisions would open many cultural resources sites to mining. The revised regulations would no longer include among areas designated unsuitable for mining privately owned sites listed on the National Register of Historic Places (NRHP) and any sites eligible for listing on the NRHP. This could result in the loss of eligible or privately owned sites that potentially include cultural resources of national significance. The criteria for designating certain sites unsuitable for mining, including sites eligible for listing on the NRHP, sites listed on State historic registers, and sites important to native Americans and religious groups, would be made more restrictive. Proposed restrictions on the petition process would make it difficult to protect those sites through unsuitability petitions. Significant impacts on cultural resources could be avoided only by reinstating the original regulations (see Alternative C).

a. Alternative A: Proposed Revisions

Nearly 25,000 sites are listed on the National Register, and nearly all (90 to 99 percent) of them are privately owned (Steve Sheffield, National Park Service, oral communication, April 1, 1981; Mike Quinn, Advisory Council on Historic Preservation, oral communication, May 27, 1982). The number of such sites that could be disturbed by coal mining is unknown; an acknowledged guess is that it would be hundreds. They would most likely occur in the East and Midwest, where privately owned sites are more common, and could typically be historic buildings in rural areas where coal mining is most likely to occur. Because such sites are listed on the National Register, it is reasonable to postulate that they have national significance--hence, any losses would be nationally significant. The number of sites that are eligible for listing on the NRHP is also large, and potentially includes cultural, historic, or scientific resources of national significance.

Eligible and privately owned sites would be protected only if the State program or the surface owner required that they be protected, or if the operator protected them voluntarily. The current regulations (sec. 779.12(b), 780.31, and 784.17) would continue to require the operator to list both public and private sites,

and they allow disturbance of publicly owned sites only if the regulatory authority has consulted with the agency responsible for the site (e.g., a State Historical Society) (sec. 761.12(f)). Because some States have passed laws requiring that their coal mining regulations not exceed OSM's requirements, those States may not protect eligible or privately owned sites. If the regulatory authority, the surface owner, and the operator did not protect them, the sites would be destroyed, and the information they contained would be lost. The proposed revisions would not affect the protection afforded to publicly owned NRHP sites (that is, those owned by Federal, State, or local government agencies).

Section 762.5 would no longer specifically mention certain cultural resource sites as criteria for designating a site unsuitable for mining. Examples that would be deleted include sites eligible for or listed on State historic registers, and sites having religious or cultural significance to native Americans or religious groups. Such sites could still be included in unsuitability petitions, but the regulatory authority might not accept the petition because such sites are no longer specifically mentioned. The preamble to the proposed regulation states that such sites are not meant to be excluded from the criteria for designating lands unsuitable, but this may be subject to different interpretation by some regulatory authorities. Other proposed restrictions on unsuitability petitions (see Land Use) would reduce opportunities for the public to petition to have cultural resource sites designated unsuitable for mining.

Proposed revisions to the definition of a cemetery (sec. 761.5) would remove the 100-foot buffer zone around family burial grounds. This would allow mining of such sites only if the family consented; if they did not consent, mining could occur up to the boundary. This would most commonly occur in the East; for example, in three townships near Berlin, Ohio, there are about 110 family burial grounds.

Section 106 of the National Historic Preservation Act (16 U.S.C. 470) and its accompanying regulations (36 CFR 800) requires Federal agencies to take into account the effect of any of their undertakings on sites listed on or eligible for listing on the NRHP, and consult with the Advisory Council on Historic Preservation. Section 106 does not directly apply to State actions; however, because States must have requirements no less effective than OSM's, they would have to consult with the State Historic Preservation Officer (SHPO) on cultural resource sites. The existing permitting regulations (part 779) require operators to report listed and eligible sites in permit applications, and they require consultation with the appropriate authorities (e.g. the SHPO) on those sites.

b. Alternative B: No Action/Minimum Action

The existing regulations concerning Congressionally designated mining prohibitions do not protect sites eligible for NRHP listing because OSM suspended section 761.11(c) and 761.12(f)(1) following a lawsuit (44 F.R. 67942). If OSM were to take no action to restore the suspended regulations, sites eligible for listing and privately owned listed sites could be disturbed by mining. Sites important to religious groups and native Americans, and State historic register sites, would continue to be listed as examples of criteria for unsuitability petitions (sec. 762.5). Potential impacts on cultural resources would not be as great as under the proposed revisions, but could still be significant because many historic and archeologic sites that are eligible for listing could be lost.

In order to avoid significant impacts on cultural resources, OSM would have to reinstate the original requirements of sections 761.11(c) and 761.12(f)(1), which protect privately owned NRHP sites and sites eligible for NRHP listing. This would probably require that Congress amend section 522(e)(3) of SMCRA to include such sites; the district court remanded those sections because they exceeded the requirements of SMCRA.

c. Alternative C: Modify the Proposed Revisions

The modifications to the revised unsuitability regulations (see Land Use) would reduce impacts on cultural resources on Federal lands, but probably would not eliminate significant impacts because privately owned sites could still be disturbed. To protect privately owned sites, OSM would have to reinstate the original regulations (see Minimum Action).

12. Transportation

The proposed revisions would not have significant impacts on transportation. The regulations would continue to require that roads be built and maintained to appropriate safety standards (sec. 816.150-180). The major factors which affect transportation (such as population increases, level of mining, or the opening of new mines) would not change greatly, because the revisions would have little effect on overall national coal production nor would they cause interregional shifts in production (see Economic Conditions). Proposed revisions to the regulations governing roads (sec. 816.150-176; 816.180) would not affect transportation because they would not affect how public roads were used.

13. Esthetics

Summary.—Impacts on esthetics would be significant to the extent that mining occurred on scenic lands such as national forests. Where this occurred, visual qualities would be reduced for at least mine life; topographic changes could permanently reduce visual diversity. These impacts could be avoided by retaining the current regulations governing the designation of areas unsuitable for mining.

a. Alternative A: Proposed Revisions

1) Impacts from changes in land use

The expansion of valid existing rights (VER) would potentially allow mining on about 1 millon acres of national forest and wildlife refuge land where mining is currently prohibited or restricted (sec. 761.5--see Land Use.) The proposed regulations (sec. 761.5(d)) would also change "damage" to "irreversibly damage", thereby allowing temporary impacts where not currently allowed. These revisions would open public lands to mining that otherwise might be found incompatible with esthetic values.

The possible deletion of the unsuitability petition process for Federal lands (Alternative 2 for Part 769--see Land Use) would add to the potentially significant impact on esthetics. This is so because citizens could no longer petition to have scenic Federal lands declared unsuitable for mining.

National forests and national wildlife refuges contain highly scenic lands. Where the proposed revisions allowed mining on undeveloped national forest or

national wildlife refuge land, esthetic impacts could be severe until the land was reclaimed and fully revegetated. This could take many decades. Some esthetic impacts may remain even after reclamation owing to the unavoidable loss of topographic diversity. The EIS on the permanent program regulations discusses the esthetic impacts of surface mining (OSM, 1979, p. BII-61 and photos).

It is not known what specific scenic resources are found on the Federal lands that could potentially be mined under the proposed revisions. Nor is it known when or where such mining might occur. Because of this uncertainty, it is not possible to predict where specific impacts on scenic lands might occur. However, because of the important scenic resources on Federal lands, and the extensive areas that would be opened to mining under the proposed regulations, the impact would probably be significant.

Mining in buffer zones around occupied dwellings and buildings (see Land Use and Social Conditions) would adversely affect the view from those dwellings and buildings, in that mining would be permitted closer than the 300 feet now required. Because mining up to the existing buffer zones already causes severe esthetic impacts where it occurs, the increased impact of mining still closer would not be serious. This impact would occur most often in the East, where VER is most likely to exist within the current buffer zones.

2) Reclamation requirements

The proposed regulations would continue to require that mined lands be backfilled and revegetated (see Topography, Soils, and Vegetation). Performance bonds could not be released until the operator demonstrated that revegetation met the requirements of the Act. On lands not considered highly scenic, these requirements would largely mitigate the severe temporary visual impact of surface mining and would generally ensure that reclaimed lands would not be visually objectionable. Because operators could continue to revegetate with introduced species in some instances, reclaimed lands would often be distinguishable from surrounding unmined lands, particularly in color and texture, but the visual contrast would generally not be highly noticeable.

Changes in the regulations affecting postmining land use would probably allow more agricultural and forest lands to be mined than before (see Land Use), but the extent of visual impacts would probably be small nationally. Although the local visual impact would be high where such lands were converted to urban or industrial uses, the amount of land converted to those uses would be small relative to the amount converted for reasons unrelated to mining.

b. Alternative B: No Action/Minimum Action

If OSM took no action on the proposed revisions, impacts on esthetics would not be significant, because scenic lands currently designated unsuitable for mining would not be opened to mining (see Land Use). Revisions necessary to meet court orders (the minimum action alternative) would also not have significant impacts, for the same reason.

c. Alternative C: Modify the Proposed Revisions

Impacts on esthetics would be reduced if OSM modified the proposed revisions to the subchapter F regulations as described in Land Use; however, they

would not be avoided entirely because some mining in scenic areas would probably still occur. Significant impacts could be avoided only if OSM took no action or minimum action (see above), or if OSM obtained the private coal rights (through purchase or trade) where operators proposed to mine especially scenic public lands. This could be costly, depending on the frequency of such proposals.

CHAPTER V

CONSULTATION AND COORDINATION

This environmental impact statement (EIS) was prepared under the direction of the Office of Surface Mining, Department of the Interior. It was prepared by an interdisciplinary task force (chapter VI), in consultation with the technical specialists and solicitors who revised the regulations.

The scoping process for this EIS began in June 1981, with the preparation of environmental assessments (EA's) on revisions proposed for individual regulations. A cumulative EA evaluating all the revisions proposed for individual regulations was begun February 1, 1982, and published May 3, 1982. That EA incorporated and superseded most of the EA's for individual regulations. Meetings were held with several interested parties on February 5 and 7, 1982, to increase public input to the cumulative EA. Comments on the EA were accepted between May 3 and June 2, 1982. When appropriate, parts of this EIS have been prepared in response to certain comments on the cumulative EA. Scoping meetings were held in Denver, Colorado, and Washington, D.C., on May 18, 1982. In preparing this EIS (and the cumulative EA), we also consulted informally, through meetings, phone calls, and letters, with representatives of--

- o American Mining Congress
- o Environmental Policy Institute
- o Interstate Mining Compact Commission
- o Mining and Reclamation Council of America: Committee on Surface Mining Regulations
- o National Coal Association
- o National Wildlife Federation
- o Western Interstate Energy Board

Copies of this EIS are available to the public for their comments and suggestions. In addition, comments are being solicited from the following:

Department of the Interior

Bureau of Indian Affairs
Bureau of Land Management
Bureau of Mines
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
Minerals Management Service
National Park Service
Office of Minerals Policy and Research Analysis
Office of Water Research and Technology

Other Federal Agencies

Advisory Council on Historic Preservation
Appalachian Regional Commission
Department of Agriculture (Forest Service and Soil Conservation Service)
Department of Commerce

Department of Defense (Army Corps of Engineers)
Department of Energy
Department of Health and Human Services
Department of Housing and Urban Development
Department of Labor (OSHA and MSHA)
Department of Transportation
Environmental Protection Agency
General Services Administration
Interstate Commerce Commission
Office of Management and Budget
Tennessee Valley Authority
Water Resources Council

State Clearinghouses

Alabama, Alaska, Arizona, Arkansas, California, Colorado, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Missouri, Montana, Nebraska, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Rhode Island, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, and Wyoming

State Agencies

Alabama Surface Mining Reclamation Commission
Alaska Department of Natural Resources
Arizona State Land Department
Arkansas Department of Pollution Control and Ecology
California Department of Conservation
Colorado Department of Natural Resources
Georgia Department of Natural Resources
Idaho Department of Lands
Illinois Department of Mines and Minerals
Indiana Department of Natural Resources
Iowa Department of Soil Conservation
Kansas State Corporation Commission
Kentucky Department for Natural Resources and Environmental Protection
Louisiana Office of Conservation
Maryland Energy Administration
Massachusetts Department of Environmental Quality Engineering
Michigan Department of Natural Resources
Mississippi Department of Natural Resources
Missouri Department of Natural Resources
Montana Department of State Lands
Nebraska Natural Resources Commission
New Mexico Energy and Minerals Department
North Carolina Department of Natural Resources and Community Development
North Dakota Public Service Commission
Ohio Department of Natural Resources
Oklahoma Department of Mines
Oregon Department of Geology and Mineral Industries
Pennsylvania Department of Environmental Resources
Rhode Island Department of Environmental Management

South Dakota Department of Water and Natural Resources
Tennessee Department of Conservation
Texas Railroad Commission
Utah Department of Natural Resources
Virginia Department of Conservation and Economic Development
Washington Department of Natural Resources
West Virginia Department of Natural Resources
Wyoming Department of Environmental Quality

River Basin Commissions

Alaska, Arkansas-White-Red, Ohio, Susquehanna, and Tennessee

Industry

American Mining Congress (for redistribution to State mining and coal associations)
Mining and Reclamation Council of America
National Coal Association
National Independent Coal Operators Association

Organizations

Arkansas Wildlife Federation
Conservation Foundation
Defenders of Wildlife
Environmental Defense Fund
Environmental Law Institute
Environmental Policy Institute
Friends of the Earth
Illinois Wildlife Federation
Interstate Mining Compact Commission
Izaak Walton League of America
League of Women Voters
Louisiana Wildlife Federation
Montana Wildlife Federation
National Audubon Society
National Wildlife Federation
Natural Resources Defense Council
Nature Conservancy
Northern Plains Resource Council
Pennsylvania Federation of Sportsmen's Clubs, Inc.
Public Lands Institute
Sierra Club
Southern States Energy Board
West Virginia Highlands Conservancy
Western Interstate Energy Board
Wilderness Society
Wildlife Society

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CHAPTER VI

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CHAPTER VII

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Table A-1.--Proposed revisions (final where indicated) that were considered in the preparation of this environmental impact statement, and their impacts (*Asterisk indicates that identical revisions are proposed for part 817.)

Current regulation: CFR--	Nature of proposed revision	Impacts
State lands unsuitable (47 F.R. 25296)		
760.2, .3, .4	Deleted	No impacts.
761.2	Incorporated into 761.5	No impacts.
761.4	Deleted	No impacts.
761.5	Revision of definitions	Significant impacts on land use, wildlife, esthetics, and cultural resources.
761.11	Revision of definitions	Significant impacts on cultural resources.
761.12	Revision of definitions	Potential impacts on cultural resources, but not significant.
762.5	Revision of definitions	Potential impacts on cultural resources, but not significant.
764.2, .3	Deleted	No impact.
764.13, .15, .17, .19, .23	Revision	Potential impacts on social conditions, but not significant.
765.13	Revision	No significant impacts.
Federal lands unsuitable (47 F.R. 25303)		
769	Deleted (alt. 2)	Potentially significant impacts on land use, wildlife, esthetics, and cultural resources.
769.7	Incorporated into 769.19, revised	Impacts on land use and social conditions, but not significant.
769.13, .14, .16, .18	Revised	Impacts on land use and social conditions, but not significant

Table A-1.--Proposed revisions (final where indicated) that were considered in the preparation of this environmental impact statement, and their impacts (*Asterisk indicates that identical revisions are proposed for part 817.)--Continued

Current regulation: CFR--	Nature of proposed revision	Impacts
	Two-acre exemption, Special bituminous coal mines, Definitions (47 F.R. 41)	
700.11	Revised	No significant impacts.
779.11-.18, .22-.28	Revised	No significant impacts.
780.11, .14, .21, .25, .37	Revised	No significant impacts.
783.11, .12, .22, .25, .27	Revised	No significant impacts.
784.11, .14, .16, .23, .24	Revised	No significant impacts.
785.19	Revised	No significant impacts.
816.41, .52, .104, .105, .116	Revised	No significant impacts.
825.1, .2	Revised	No significant impacts.
	Permitting process	
770.2	Deleted	No impacts.
770.4, .12; 771.9; 786.4; 788.3	Incorporated into 773.4, Responsibilities, with revisions	No significant impacts.
770.11; 771.1; 781.1; 787.1; 788.1	Incorporated into 773.1, Scope	No significant impacts.
771.2; 786.2; 787.2; 788.2	Incorporated into 773.2, Objectives	No significant impacts.
771.11-.21; 778.12-.18	Incorporated into 773.11, Requirements, with revisions	No significant impacts.

Table A-1.--Proposed revisions (final where indicated) that were considered in the preparation of this environmental impact statement, and their impacts (*Asterisk indicates that identical revisions are proposed for part 817.)--Continued

Current regulation: CFR--	Nature of proposed revision	Impacts
	Permitting process--Continued	
786.11-.15, .23; 778.21	Incorporated into 773.15, with revisions	No significant impacts.
786.12	Deleted	No significant impacts.
786.17-.29; 785.14, .16-.19, .22; 787.11, .12; 788.11, .16; 819.11	Incorporated into 773.19, with revisions	No significant impacts.
788.18	Incorporated into 773.17, with revisions	No significant impacts.
	Coal exploration (47 F.R. 21442)	
701.5	Revision of definition	No significant impacts.
776.1-.3	Incorporated into 772.1	No significant impacts.
776.11	Incorporated into 772.11	No significant impacts.
776.12, .13, .14	Incorporated into 772.12, revised	No significant impacts.
776.15	Renumbered as 772.13	No significant impacts.
776.17	Renumbered as 772.15	No significant impacts.
815.2, .11	Deleted	No significant impacts.
815.13, .15	Revised	No significant impacts.
815.17	Renumbered as 772.14	No significant impacts.
	Prime farmlands grandfather clause (47 F.R. 12310)	
785.17	Revised	Beneficial.

Table A-1.--Proposed revisions (final where indicated) that were considered in the preparation of this environmental impact statement, and their impacts (*Asterisk indicates that identical revisions are proposed for part 817.)--Continued

Current regulation: CFR--	Nature of proposed revision	Impacts
Experimental practices (47 F.R. 12082)		
785.13	Revised	No significant impacts.
Alluvial valley floors (47 F.R. 25486)		
822.1, .2	Deleted	No impacts.
822.11, .12	Revised	No significant impacts.
Coal processing plants		
827.11	Revised	Possible local impacts on soils, geology, prime farmlands, but not significant.
827.12	Revised	Possible local impacts on soils, geology, prime farmlands, but not significant.
Prime farmlands (47 F.R. 19076)		
779.27; 783.27	Incorporated into 785.17	Local impacts on soils, vegetation, but not significant.
785.17	Revised	Local impacts on soils, vegetation, but not significant.
823.2	Deleted	No impacts.

Table A-1.--Proposed revisions (final where indicated) that were considered in the preparation of this environmental impact statement, and their impacts (*Asterisk indicates that identical revisions are proposed for part 817.)--Continued

Current regulation: CFR--	Nature of proposed revision	Impacts
	Prime farmlands--Continued	
823.11, .14	Revised	Local impacts on soils, vegetation, but not significant.
823.12, .13	Combined into 823.12	Local impacts on soils, vegetation, but not significant.
	Postmining land use: AOC variances (47 F.R. 16152)	
785.16	Revised	No significant impacts.
*816.133	Revised	No significant impacts.
826.15	Incorporated into 816.133, revised	No significant impacts.
	Subsidence/Concurrent mining (47 F.R. 16604)	
784.20 (Subsidence control)	Revised	No impacts.
785.18 (Concurrent mining)	Revised	No significant impacts.
816.79, .100	Revised	No significant impacts.
817.121, .122, .124, .126	Consolidated into 817.121	No impacts.
818.1-.15	Deleted	No significant impacts.
	Hydrology and Geology	
779.13, .14, .15, .16, .17; 780.21, .22; 816.41; 816.52	Incorporated into 780.21 and 780.22	Potentially significant impacts on water quality.

Table A-1.—Proposed revisions (final where indicated) that were considered in the preparation of this environmental impact statement, and their impacts (*Asterisk indicates that identical revisions are proposed for part 817.)—Continued

Current regulation: CFR—	Nature of proposed revision	Impacts
	Hydrology and Geology—Continued	
783.13, .14, .15, .16, .17; 784.14; 784.22; 817.41; 817.52	Incorporated into 784.14 and 784.22	Potentially significant impacts on water quality.
	Impoundments	
*816.49, .56	Revised	Possible local impacts, but not significant.
	Disposal of excess spoil (47 F.R. 24954)	
*816.71-.74; 816.75	Revised and consolidated: 816.71	No significant impacts.
	Topsoil (47 F.R. 10742)	
*816.21	Deleted	No significant impacts.
*816.22-.24	Revised	No significant impacts.

Table A-1.--Proposed revisions (final where indicated) that were considered in the preparation of this environmental impact statement, and their impacts (*Asterisk indicates that identical revisions are proposed for part 817.)--Continued

Current regulation: CFR--	Nature of proposed revision	Impacts
Fish and wildlife (47 F.R. 13466)		
*816.57	Revised	No significant impacts.
*816.97	Revised	Potentially significant impacts on wildlife.
Coal mine waste		
*816.81, .82	Revised	No significant impacts.
*816.83, .85	Revised for clarity	No significant impacts.
*816.86	Incorporated into 816.87	No significant impacts.
*816.89	Incorporated into 816.93, with revisions	No significant impacts.
*816.92	Incorporated into 816.90, with revisions	No significant impacts.
*816.93	Renumbered as 816.91	No significant impacts.
Use of explosives (47 F.R. 12760)		
780.13 (Permitting)	Revised	Possible local impacts, but not significant.
816.61-.68	Revised with options	
Backfilling & grading: Terraces (46 F.R. 39854, proposed; 47 F.R. 18552, final)		
*816.102	Revised	No significant impacts.

Table A-1.--Proposed revisions (final where indicated) that were considered in the preparation of this environmental impact statement, and their impacts (*Asterisk indicates that identical revisions are proposed for part 817.)--Continued

Current regulation: CFR--	Nature of proposed revision	Impacts
	Backfilling & grading	
816.102-.105; 817.101-.103	Revised	No significant impacts.
816.101	Incorporated into 816.102	No significant impacts.
826.11, .12	Incorporated into 816.107	No significant impacts.
816.106	Deleted	No significant impacts.
816.107	Added	No significant impacts.
	Auger mining (47 F.R. 12088)	
816.108	Addition and revision	No significant impacts.
	Support facilities	
816.181	Incorporated into 816.180	No impacts.
	Remining	
816.109	Newly proposed section	No significant impacts.

Table A-1.--Proposed revisions (final where indicated) that were considered in the preparation of this environmental impact statement, and their impacts (*Asterisk indicates that identical revisions are proposed for part 817.)--Continued

Current regulation: CFR--	Nature of proposed revision	Impacts
	Revegetation (47 F.R. 12596)	
*816.111, .113, .114, .116	Revised	No significant impacts.
*816.112, .115, .117	Deleted	No significant impacts.
	Roads (47 F.R. 16592)	
701.5	Revised	No significant impacts.
*816.150-.156; *816.180	Revised with performance standards as options	No significant impacts.
*816.160-.176	Deleted	No significant impacts.
	Second cut remining (47 F.R. 928)	
826.12	Revised	No significant impacts.

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Table A-1.--Proposed revisions (final where indicated) that were considered in the preparation of this environmental impact statement, and their impacts (*Asterisk indicates that identical revisions are proposed for part 817.)--Continued

Current regulation: CFR--	Nature of proposed revision	Impacts
Subchapter L: Inspection and enforcement (46 F.R. 58464)		
843.12	Revised	No significant impacts.
Subchapter M: Blaster certification (47 F.R. 12783)		
850.1, .5, .11-.16	Reproposed with revisions	No significant impacts.

APPENDIX A-2

SUMMARY OF THE PROPOSED REVISIONS

This section summarizes the revisions OSM is proposing for its permanent program regulations. An official description of the proposed revisions is in Federal Register descriptions cited in appendix A-1; the revisions are summarized here as a convenience to reader. The revised regulations, as of June 1982, are available on request from:

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In the following discussion, regulations that are being revised as part of the current proposal are arranged in sequence, by subchapter, part, and section, using the numbers of the revised regulations.

Subchapter A: General

Section 528(2) of the Act exempts mining operations of 2 acres or less from the provisions of the Act. Because the existing 2-acre regulation (sec. 700.11(b)) implementing that provision has proved difficult to enforce, a new regulation has been proposed.

The proposed 2-acre regulation would establish standard criteria for determining exemption eligibility. The definition of relatedness of sites would be greatly expanded to include factors such as the time between operations, their physical proximity, shared use of equipment, personnel, and roads, and common ownership or control. The proposed 2-acre regulation also presents five alternative methods for allotting segments of a road which should be included in the affected area of each of a number of operations jointly sharing its use. This issue is important because it would have a direct bearing on the overall size of the operation and its exemption eligibility. Under the first alternative the entire road segment would be included in the affected area of the operation that owns and uses that segment or in the affected area of the operation that makes the greatest use of that segment. The second alternative requires that the segment be included in the affected area of each of those operations. Alternative three would require that the segment be divided equally among those operations. Under the fourth alternative, a pro-rata share of the segment shall be included in the affected area of each operation. Under the fifth alternative, the regulatory authority could adopt any method of attributing a road segment, so long as the entire segment was allotted by the regulatory authority and the method was consistent with the Act. This alternative would provide for maximum flexibility to States.

The proposed new 700.11(b) provides specific criteria for determining when two or more operations should be considered as one for purposes of the exemption. Two alternatives are proposed. Under the first alternative, operations would be related if they were contiguous. Under the second alternative, operations are

related if they meet specific physical relatedness criteria and criteria demonstrating common ownership. The revised 2-acre regulation would also allow operations that did not satisfy the above criteria to qualify for the exemption under extraordinary circumstances.

Various definitions in section 701.5 would be revised; those revisions that would have appreciable impacts are discussed with the regulations that they would affect.

Subchapter F: Areas Unsuitable for Mining

Areas designated by Congress as unsuitable for surface coal mining.--Section 522(e) of SMCRA designates certain lands as unsuitable for surface coal mining. Those lands include national parks, wilderness areas, wildlife refuges, wild and scenic rivers (including study rivers), national trails, national recreation areas, national forests (subject to the decision of the Secretary), lands where mining would adversely affect any publicly owned parks or places listed on the National Register of Historic Places, and lands near public roads, buildings (such as schools or occupied dwellings), or cemeteries. These designations are subject to valid existing rights (VER); that is, the designation in SMCRA is not intended to take away any "valid existing rights" to mine coal on such lands. The current regulations define VER as a property interest in the coal to be mined plus either possession of all required Federal and State permits to mine the coal or a showing that the coal is needed to make an adjacent ongoing mine economically viable. In 1980, the district court remanded the section of the regulation that required all necessary permits and indicated that a "good faith" attempt to obtain the permits before the date of enactment of SMCRA should suffice (45 F.R. 51548).

OSM is proposing a number of options which would amend section 761.5 to show that valid existing rights exist where--

- Option 1: The applicant has a property interest in the coal to be mined and has exercised a good-faith effort to obtain all necessary Federal and State permits to mine the coal, or shows that the coal is needed to make an adjacent ongoing mine economically viable; a good-faith effort would be considered met if all permits were applied for before August 3, 1977;

- Option 2: The applicant has a property interest in the coal to be mined (the least restrictive definition OSM proposes); and

- Option 3: The applicant has a property interest in the coal to be mined and has the right to mine it by the methods he proposes to use.

- Other options that fall within the range of options 1-2.

A new paragraph, proposed for all three options, would provide that VER may be found where the operator would have no reasonable remaining use of the property if it was designated unsuitable for mining. This is intended to prevent unconstitutional takings without just compensation. A new paragraph is also proposed to show that VER includes those private property rights for which a judicial finding of taking has occurred.

A new paragraph would be added to section 761.5 to show that VER exists where a mine was in operation at the time an area became protected under section

522(e), such as structures, roads, cemeteries, or other activities listed in section 522(e) that came into existence after the mine began operation.

OSM also proposes to amend section 761.12(f) to designate as unsuitable lands where the proposed mining "will" affect any public park or any publicly owned places listed on the National Register of Historic Places. The current regulations use "may" instead of "will," and include both public and private places listed on the National Register.

Several revisions proposed for section 761.5 would alter the conditions under which mining would be allowed in national forests. Section 522(e) of SMCRA prohibits mining in national forests except for underground mines and mining in areas with no significant forest cover, such as grasslands. Those exceptions are currently allowed only if the Secretary finds that mining would not damage recreational, timber, agricultural, scenic, historic, archeologic, esthetic, fish and wildlife, cultural, or botanical resources (existing regulation 761.5). The proposed regulations would substitute "irreparably damage" for "damage," which would allow temporary mining disturbance that could be restored by reclamation. The proposed regulations would also delete esthetic resources from those considered by the Secretary (proposed sec. 761.5). (Scenic resources would still have to be considered.)

Socioeconomic and cultural resources would be affected primarily by revision of some of the definitions in parts 761 and 762. The proposed definition of an "occupied dwelling" (sec. 761.5) would be changed to define temporary habitation as used for human habitation for "at least three consecutive months". The definition of a "public building" (sec. 761.5) would reflect one of three proposed definitions. Option 1 would be expanded to include buildings leased by government agencies, not just those owned or used by them. It is also proposed to drop the word "public" and use "government". This would eliminate certain community buildings or structures from consideration in this context. Option 2 would define a public building as only those structures owned by a public agency. This would narrow the definition for the application of the mining prohibition within 300 feet of a public building. Option 3 would leave the definition as it is.

The definition of a "public park" also has two options. The first would eliminate the wording "held open to the public" from the definition. This would remove from consideration privately owned lands not designated as a public park by a government agency. Option 2 would apply the unsuitability criteria only to lands "dedicated or designated by any Federal, State or local agency primarily for public recreational use". This revision would allow part of a multiple-use area to be considered a public park, leaving the remainder open to mining. Also, the use of "primarily" would exclude lands where recreation is a minor use.

The proposed definition of "cemetery" reflects that family burial plots are not considered cemeteries.

Revisions to proposed section 761.11(c) would narrow the protection afforded to historic properties. The current regulations protect all properties listed on the National Register of Historic Places. The revised regulations would prohibit mining only on listed properties that are publicly owned.

Section 761.12(e) would be revised to provide that where an applicant for a permit after August 3, 1977 had obtained a valid waiver to mine within 300 feet of

an occupied dwelling from the owner before that date, a new waiver would not be required. Proposed paragraph (e)(3) would provide that a waiver would remain effective against subsequent purchasers if the waiver had been properly filed in public property records or if mining had already proceeded within the prohibited distance at the time of purchase.

Proposed section 761.12(f) would add a clause stating that affected agencies (those responsible for parks, or historic, scientific or cultural sites) must respond to the regulatory authority's requests on permit applications concerning those sites within 30 days or they will be assumed to have no objections to approval of the permit application.

OSM is proposing two alternative revisions to the definition of "fragile lands" (sec. 762.5), which sets criteria for designating lands unsuitable for mining. In option 1, the term "damaged" would be modified by adding "irreparably". In option 2, the definition would be revised by adding that fragile lands are those areas containing important resources that could be irreparably and significantly damaged or destroyed by mining. Option 2 would also modify or eliminate certain examples of fragile lands such as those where flooding may occur and buffer zones.

OSM is proposing two options for revision of the definition for "historic lands". Option 1 would eliminate reference to "sites having religious or cultural significance to native Americans or religious groups". Option 2 would define "historic lands" to mean important historic, cultural, and scientific areas that could be irreparably damaged or destroyed by mining.

OSM proposes to revise the definition of substantial legal and financial commitments (sec. 762.5). (Lands where such commitments had been made before Januray 4, 1977 are exempt from unsuitability petitions under sec. 762.13.) The proposed revision would delete the requirement for a long-term coal contract in order to have made a substantial legal and financial commitment.

OSM proposes to revise standing requirements (sec. 764.13(a)) to allow only persons with a property interest to petition.

Information that must be provided in petitions to designate lands unsuitable for mining is set forth in section 764.13(b) (and 769.13(a)). Two options for amendments to this section are proposed. Proposed option 1 would add a requirement that the allegations assume that contemporary mining practices authorized under applicable regulatory programs would be followed if the area were to be mined. This addition is intended to clarify that if damage would be successfully mitigated by following technically sound mining practices in accordance with the Act, there is no basis for designation. In addition, option 1 would require that petitioners provide supporting evidence for all lands covered by a petition. Option 1 would also give the regulatory authority the discretion to require a more specific presentation of allegations as they relate to the petitioners' interests and to the criteria specified in the Act. Finally, option 1 would provide that the regulatory authority may request other supplementary information which is readily available to be provided by the petitioner. Failure to include such information would make a petition incomplete. Option 2 would increase petition requirements, including that the petitioner notify private land and mineral owners within the petition area, and those amendments included in option 1. Another amendment may include a provision that would clarify or interpret what is meant by "adversely affected".

Section 764.13(c) is proposed to be amended in its entirety to allow regulatory authorities to expand the information requirements for termination of petitions. The proposed changes are similar to those of option 1 for petitions for designation.

A new section 764.15(a)(3) is proposed which would provide that the regulatory authority may suspend petitions on lands where there is no real and foreseeable potential for mining. "Real and foreseeable" potential means that the petitioned lands are likely to be subject to leasing or mining within 5 years.

Proposed section 764.15(a)(5) will provide that, when the regulatory authority finds that a petition for an area which has been previously and unsuccessfully petitioned does not contain new significant allegations of fact, the regulatory authority may choose not to consider the petition.

Two options are proposed for the new section 764.15(a)(8). Option 1 would allow the regulatory authority to determine in its State program not to process any petition which pertains to lands for which a complete permit application has been filed and the first newspaper notice has been published. Option 2 would provide that any petitions received after the close of the public comment period on a permit application relating to the same permit area shall not prevent the regulatory authority from issuing a decision on that permit application. Under this option, OSM would redefine "close of comment period" as 30 days after the last advertisement giving notice of filing of a permit application.

In new section 764.15(a)(9), OSM proposes to allow the regulatory authority to incorporate petitions into State or local land use planning programs if such programs would provide protection equivalent to the petition process.

Section 764.15(b) would provide for public input on whether petitions are complete, and for notifying specified persons and government agencies of an opportunity to comment or request hearings on the completeness of the petitions. Section 764.15(c) would be revised to require the same standing for intervenors as for petitioners--that is, any person having an ownership interest in land or mineral resources which is or may be adversely affected. Several options are proposed which would revise hearing requirements (sec. 764.17) to allow cross examination of witnesses and assign the burden of proof to the petitioner. Section 764.19(a)(3) is proposed to be modified to reflect that a detailed statement need not be prepared for every unsuitability proceeding.

OSM proposes to delete existing part 765 which contains provisions for designating lands unsuitable under a Federal program for a State. The substantive provisions of this part will be incorporated, with modifications, into part 736, Federal Programs for a State. Under the proposed revision, a Federal unsuitability program could not be implemented until 1 year after a Federal program is established for the State.

Designation of Federal lands as unsuitable for coal mining.--OSM is proposing two alternatives for part 769, which establishes procedures by which citizens can petition the Secretary to designate Federal lands unsuitable for surface coal mining or to terminate such designations. One alternative would eliminate the petition process for Federal lands by deleting part 769. The other alternative would revise the petition process as described below.

Section 769.13, which specifies requirements for contents of petitions, would be amended under each of two proposed options:

- Option 1 would clarify the existing requirement for submission of facts with supporting evidence, and would state that OSM may request supplementary information that is readily available be provided by the petitioner.

- Option 2 would require additional information to be submitted with petitions, including a listing of property and mineral owners; would require notification of those owners by certified mail and publication of a newspaper advertisement describing the petition; and would require additional information in petitions to terminate unsuitability designations.

Part 769.14 would be amended to include ripeness criteria to integrate the petition process with land use planning. Petitions would be accepted only if a "real and foreseeable potential" exists for mining to occur in the 5 years on the lands subject to the petition. In addition, ripeness would mean that formal land use planning by the land management agency (usually the BLM) has been completed for the area or the area is covered by a preference right lease application or by lease issued prior to 1979. Petitions would be accepted only if they contained new evidence not previously considered in a Federal Lands Review.

Other changes proposed for part 769 are similar to those found in part 764 and would clarify and expand procedures for considering petitions and implementing successful petitions, reduce duplication, and reword and reorganize the regulations.

Subchapter G: Permits

Proposed revisions to subchapter G would delete all references to "mine-plan area" and other modifying terms and replace them with "permit area" and various modifiers. These revisions are in accord with court orders (44 F.R. 51548). Other revisions are proposed to bring the regulations more in line with the Act and to reorganize them.

Part 772: Coal exploration (parts 701, 772, existing regulations) (see also part 815, subchapter K).--These regulations specify the requirements for getting a permit for coal exploration. Two alternatives are proposed: to require a notice of intent to conduct exploration for all exploration (as required by the existing regulations) or to require a notice only for exploration that the regulatory authority decided would substantially disturb the natural landscape. The regulations would no longer require a map of the exploration area (as required by sec. 776.11(b)(3) of the original regulations) or a listing of sites eligible for listing on the National Register of Historic Places (as required by original sec. 776.12(a)). Both requirements were remanded by court action.

Part 773: Permitting process.--These regulations reorganize existing parts 770, 771, 786, 787, and 788 into one part to clarify and remove duplication in the processing of permits.

Section 780.13: Blasting plan.--OSM proposes to reduce the amount of information required in the blasting plan. Proposed section 780.13(c) does not prohibit mining within 1,000 feet of residences and certain other public buildings, nor within 500 feet of underground mines. The operator must, however, outline

specific precautions and criteria to be implemented to protect persons and property when blasting in these areas.

Section 780.22: Geology requirements.-- The revised regulations would no longer require assays of pyrite and marcasite for the coal seam, but they would require an assay of total sulfur. If the total sulfur content was sufficiently high, the regulatory authority could require the determination of sulfate sulfur, pyritis sulfur, and organic sulfur. The revised regulations would no longer require all strata within the overburden to be tested for compaction and erodibility.

Section 780.21: Hydrology requirements.--The proposed revisions would allow the regulatory authority greater discretion in prescribing hydrologic requirements for a particular operation; stress the importance of water availability for approved postmining land uses; and emphasize the baseline hydrologic information upon which the operation would be designed, conducted, and monitored. The regulations (sec. 780.21(e)(1)) would no longer require monitoring of "marginal ground-water resources." The revised regulations would require a ground-water monitoring plan only if the regulatory authority deemed it necessary or if the determination of probable hydrologic consequences indicated the possibility of adverse impacts to a significant ground-water resource.

Section 780.34: Remining.--A new section, 780.34, would set forth the permit application requirements for remining and reprocessing in four categories: (a) general requirements, (b) remining, (c) auger mining, and (d) reprocessing. The individual requirements of this section are keyed to two objectives: (1) require the permit applicant to properly plan a remining or reprocessing operation in light of the particular problems and conditions, and (2) give the regulatory authority sufficient data to evaluate impacts of the operation, reclamation methods, and compliance with the Act and rules.

Section 784.20 : Subsidence (see also sec. 817.121, 817.122, 817.124, and 817.126, subchapter K).--Proposed section 784.20 would unequivocally require a general subsidence control plan for every underground coal mine. The plan could be general in the permit application, but a detailed plan would have to be approved before new areas could be mined. The regulatory authority would continue to be responsible for assessing the adequacy of the control plan and the likelihood of subsidence and of material damage due to subsidence.

Section 784.22: Geology requirements.--The revised regulations would require data to be provided on the engineering properties of clays or soft rock such as clay shale, if any, of the stratum underlying the coal seem.

Section 785.13: Experimental practices.--These regulations authorize exemptions from the performance standards (subchapter K) so operators may use experimental practices. The revised regulations would be clarified and revised so as to encourage advances in mining and reclamation practices to allow alternative postmining land use. The regulations would require annual review of the experimental practice permit.

Section 785.16: Variances from AOC.--The requirements of this section, which would not be limited to steep slopes, would remain the same as the current section except for changed cross-references and deletion of two duplicative requirements that would be incorporated into proposed section 816.133(d).

Section 785.17: Prime farmlands (see also part 823).--The revised regulations would more clearly delineate the responsibilities of the Soil Conservation Service for describing the extent of the reconnaissance inspection to determine if prime farmland exists and for describing the soil survey information needed to evaluate the technological capability of the operator to reconstruct prime farmland soils. Also, the revised regulations would more closely define the coordination between the regulatory authority and the Soil Conservation Service in each State.

Two alternatives are proposed to establish a cutoff date for grandfather exemptions from the prime farmland requirements. Alternative A would end grandfather exemptions after August 3, 1982; alternative B would allow States 5 years from the date of a final rule to establish a cutoff date.

Section 785.19: Alluvial valley floors (also part 822, subchapter K).--These regulations pertain to the hydrologic functions of lands west of the 100th meridian on stream-laid deposits that are important to farming and serve as an important resource to the arid and semiarid west. The proposed revisions would clarify and simplify the permit procedures (sec. 785.19). The specific requirements on the type and scope of studies required would be deleted. The proposed rule would not alter the requirement that adequate data and analysis are required to support an alluvial valley floor determination by the regulatory authority.

The proposed rule would change the permit application procedures to delete the requirement that a complete permit application be filed before the regulatory authority makes a determination of the applicability of the various statutory exclusions. Under the proposed rule, the regulatory authority may require that the complete application be submitted; however, a determination could be made if sufficient data, information, and analyses are submitted to support the determination.

The proposed regulation would clarify the requirements for prevention of material damage to water quantity or quality for operation on or adjacent to AVF's. The revised regulations would continue to require operations to preserve the essential hydrologic function of all AVF's.

Two alternative definitions of "essential hydrologic functions" are proposed to shorten and simplify the existing definition. The first alternative would adopt only the first paragraph of the existing definition which is the operative portion of the existing definition. Option 2 would separately define essential hydrologic functions during and after mining.

The definition of "materially damage the quantity or quality of water" is also proposed to be amended slightly to simplify and clarify its application and to reflect the February 26, 1980, District Court decision. The revised definition would recognize that some impacts to the water system will probably occur as a result of mining, but that the impacts may not be of sufficient magnitude to decrease the capability of the AVF to support agricultural activities.

The requirement to cease mining and to take remedial action contained in the existing rule would be deleted. The proposed rule would rely on requirements of section 786.29 which requires a permittee to take all possible steps to mining any adverse impact on the environment resulting from any term or condition of the permit.

Section 785.21: Coal processing plants not located within the permit area.--The proposed rule would parallel the requirements of the existing rule, but would be revised to clarify the type of facilities regulated through part 827.

Subchapter K: Performance Standards

The environmental protection performance standards for underground mines (part 817) are generally identical to the standards for surface mines (part 816). In the following discussion, reference to regulations in part 816 should also be taken as a reference to the corresponding section of part 817.

Part 815: Coal exploration (see also part 772, subchapter G).--The performance standards for roads used in exploration would be revised to conform to the revised performance standards for roads in subchapter K. The revised regulations would also allow the diversion of streams during exploration if approved by the regulatory authority. In addition, section 815.15(b) would no longer require the operator to measure "important environ-mental characteristics"; instead, it would require only that he minimize environmental damage to the exploration area.

Sections 816.21 to 816.25: Topsoil.--These regulations specify how topsoils must be handled to ensure that they will support plant growth after mining, to minimize soil loss, and to provide for alternative postmining land uses. The regulations specify procedures for removing, storing, and redistributing topsoils for mining and reclamation. The proposed revisions would give the regulatory authority greater flexibility to allow soil handling procedures that meet local conditions, including removal of topsoil (816.22(a) and (b)), use of topsoil substitutes, application of soil amendments, and conducting field tests to demonstrate the suitability of soil substitutes (816.22(e)). Alternative II (817.22(a)(1) and (2)) would eliminate the requirement for stockpiling topsoil or substitute material for long periods during underground mining. (See also 47 F.R. 10742, March 11, 1982.)

Section 816.41: Hydrologic balance protection.--This revised regulation would replace sections 816.43, 816.44, 816.48, and 816.50 to 816.55 of the current regulations. The revised regulation would retain the essential requirements of the current regulations, but it would combine and reorder the requirements to clarify them and to better relate them to one another and to the proposed permitting regulations. The revised regulation would establish minimum performance standards, whereas some of the existing regulations include design criteria.

Sections 816.42 and 814.46: Effluent limitations and sediment pond design criteria.--The revised regulations would revise the effluent limitations and sediment pond design criteria. The revised regulations would continue to require all coal mining operations to comply with Federal and State water-quality standards, including EPA's proposed effluent limitations for coal mining operations. Most design criteria for sediment ponds would no longer be specified; instead, regulatory authorities, operators and registered engineers who design ponds must use best technology currently available to prevent contributions of suspended solids and ensure compliance with applicable effluent limitations.

Sections 816.49 and 816.56: Impoundments.--The revised regulations would continue to require that impoundments not be subject to failure and not contribute to degradation of water quality. Permanent impoundments would be allowed under essentially the same conditions as under the current regulations. The proposed regulations would require temporary impoundments to meet the permanent

impoundment standards, not the criteria for sedimentation ponds, as the current regulations require. The revised regulations would retain the minimum design standards for design, construction, and maintenance for large impoundments of the Watershed Protection and Flood Protection Act and the Mine Safety and Health Administration. Although the revised regulations would delete specific design criteria, they would continue to require that a registered professional engineer or other qualified person certify designs and make routine inspections and certifications after the impoundment is constructed. This would allow the regulatory authority flexibility to approve designs that best meet local conditions. The revised standards for smaller impoundments would be based on published Soil Conservation Service standards. These performance levels would meet or exceed the Watershed Protection and Flood Prevention Act criteria.

The regulations governing renovation of structures relating to impoundments, diversions, and related facilities prior to abandonment (sections 816.56 and 817.56) would be revised only slightly, to emphasize that such structures are to be renovated in accordance with the approved reclamation plan and only where renovation is necessary to conform to that plan. Geologic characteristics on AVF's would no longer have to be maintained.

Sections 816.57.--Stream buffer zones.--Existing section 816.57 provides that no land within 100 feet of a perennial stream or a stream with a biological community shall be disturbed by mining, unless approved by the regulatory authority. The revised regulation would require buffer zones for all perennial and intermittent streams, rather than streams with a biological community.

Sections 816.61-816.68: Use of explosives.--The revised regulations would place increased responsibility on the design professionals, such as certified blasters and ground vibration experts, in establishing the design standards to meet the performance goals established in the rules. Major revisions would include:

- o reducing the restrictions of the blasting schedule;
- o deleting the prohibition on night blasting (but still allowing the regulatory authority to restrict times of blasting);
- o presenting three options which establish performance standards for ground vibration and provide protection to residences from blast vibrations. The three options are: (a) the regulatory authority would establish a particular velocity for each permit based on site-specific conditions; (b) establish maximum allowable ground vibration limits dependent on the distance to the nearest structure; or (c) establish a limitation (flat limit), that is not to be exceeded at any structure outside the permit area; and
- o deleting the prohibition on blasting within specified distances of public buildings, relying instead on statutory limits and on certification and design by certified blasters.

Section 816.71: Excess spoil; section 816.75: Disposal of excess spoil.--These regulations govern disposal of excess spoil; they would replace sections 816.71-816.74 and section 826.16 of the current regulations. The revised regulations would allow disposal of excess spoil on preexisting benches (this revision was published as a final rule on April 29, 1982: 47 F.R. 18553. It has been reproposed as part of the general revision of the excess spoil regulations). The revised regulations would

eliminate most specific design criteria, but they would require design and certification by registered professional engineers and approval of design by the regulatory authority. In addition, the revised regulations would allow disposal of nontoxic, nonacidic mine waste in head-of-hollow and valley fills.

Proposed section 817.71 would require that wastes from underground mines be disposed of in accordance with proposed section 816.81-.94 and that material from face-up operations be disposed of in accordance with section 816.71. Also, spoil from face-up operations for underground mines could be placed in cut-and-fill structures at drift entries if the structures were less than 400 feet long horizontally and were designed in accordance with 817.71(a).

Sections 816.81 to 816.93: Coal mine wastes.--These regulations pertain to coal-mine waste and need to construct refuse piles and impoundments. The proposed revisions would strengthen adherence to the Act and would eliminate duplication with the regulations of the Mine Safety and Health Administration (MSHA) and with OSM's revised regulations on disposal of excess spoils (proposed sec. 816.71 and 817.71). The revised regulations would be reorganized into two parts:

- o Refuse piles (sec. 816.81 to 816.85), which correspond to MSHA's regulations (30 CFR 77.214-77.215) on refuse piles; and
- o Impounding structures (816.86), which correspond to MSHA's regulations (30 CFR 77.216) on water, sediment, or slurry impoundments and impounding structures.

Section 816.97.--Protection of fish, wildlife, and related environmental values.--These sections set the basic performance standards requiring operators to use the best technology currently available to minimize harm to fish and wildlife. The revised regulation would continue to require the operator to "minimize disturbances and adverse impacts" on fish and wildlife, but would no longer specify what technology must be used. Those instances include the protection of migratory routes, raptor proofing of power poles, exclusion of wildlife from hazardous ponds, use of persistent pesticides, and prevention of fires. (See also 47 F.R. 13466, March 30, 1982.)

Sections 816.100 to 816.107: Backfilling and grading.--These regulations govern the replacement of spoil and waste material after removal of the coal by addressing the backfilling and grading performance standards to achieve the approximate original contour. The revised regulations would eliminate specific design criteria to allow engineers more freedom in designing reclamation techniques. The backfilling and grading performance standards for steep slope mining from part 826 would be combined with the other performance standards as section 816.107. Sections 816.101, 816.103, and 816.106 would be removed by combining the performance standards into the remining sections and then deleting the specific design criteria. The specific design requirements for terraces in section 816.102 would be replaced by allowing terraces wide enough to support the planned postmining land use and also to be compatible with that use (this revision was issued in final form April 29, 1982: 47 F.R. 18552, but has been reproposed). The revised regulations would allow coal processing waste and undevelopment waste to be placed in the backfilled area. The sections on thin and thick overburden, sections 816.104 and 816.105, respectively, would be revised by describing the

characteristics of thin and thick overburden and removing the performance standards that are included in other sections.

Section 816.108: Auger mining.--The proposed revisions would delete existing part 819 and would include all requirements for auger mining in the general performance standards in a new section 816.108. In addition, the proposed revisions would remove several design criteria, leaving it to the operator and the regulatory authority to determine how to best achieve the performance standards for each site. (See also 47 F.R. 12088, March 19, 1982.)

Section 816.109: Backfilling and grading--remining and reprocessing.--The revised regulation would identify the performance standards for remining a previously mined area and for reprocessing coal mine waste. The backfilling and grading requirements would be conducted in accordance with proposed section 816.102, except for the requirement to regrade the disturbed area to the approximate original contour and to eliminate the highwall in the previously mined area. Before leaving any highwall, the operator would demonstrate in writing to the regulatory authority that there is insufficient reasonably available spoil and that the highwall would be eliminated to the maximum extent practical. Examples of remining to which the rule would apply are second cuts on single and multiple seams, remining of mountaintop remnants, and remining through existing spoil ridges to lower coal seams in area mining. The proposed regulations cover the performance standards for stablizing the highwall when auger mining pre-existing highwalls. Also, the regulation would indicate that during the reprocessing of existing coal waste deposited in refuse piles, slurry ponds, dams, and embankments, that the operator would comply with the performance standards of part 816.

Sections 816.111 to 816.117: Revegetation.--These regulations require the operator to stabilize disturbed soils with quick-growing plants and to establish a diverse permanent vegetative cover capable of supporting postmining land uses. The proposed revisions would give State regulatory authori ties greater flexibility in dealing with local environmental conditions. The revised regulations would: delete the requirement for use of field trials to demonstrate that introduced species were desirable and necessary (sec. 816.112); delete the requirement for grazing on pasture or rangelands during the last years of responsibility (sec. 816.115); broaden the approaches acceptable for determining the success of revegetation (sec. 816.116); provide for the use of success standards that reflect local and regional recommendations on tree and shrub stocking (sec. 816.116); permit tree and shrub planting, maintenance work, and normal husbandry practices during the responsibility period for revegetation success (sec. 816.116(c)(3)); and revise the standards relating to the responsibility period for areas with more than 26 inches average annual precipitation (sec. 816.116(b)(2)). (See Vegetation, chapter IV.)

Section 816.133.--Postmining land use.--The proposed revisions would substitute simplified performance standards for the detailed criteria and information requirements of the existing regulations. Section 816.133(a) would be revised to clarify that operators would not be responsible for developing higher and better uses (when such uses are proposed); instead, they would be required to return the affected land to a condition capable of supporting the use. Section 816.133(b) would be revised to allow restoration of previously mined land to the land's capability before any mining. (This reflects the district court's decision in Civil Action No. 79-1144 (D.D.C, May 16, 1980).) Revised section 816.133(c) would allow the regulatory authority to approve alternative postmining land uses under these

conditions: the landowner or managing agency is consulted, the proposed use is reasonably likely and is practical, the use would not create a public hazard or degrade or diminish water, and the use would conform with land use plans and laws.

Two alternatives are proposed for a new section 816.133(d), which sets criteria for variances from approximate original contour (AOC). The first alternative lists ten conditions for a variance, including (among other things) certification of the proposed use by a registered professional engineer, complete backfilling of the highwall with a 1.3 safety factor, and surface owner consent. This alternative would not be limited to mining on steep slopes. The second alternative would allow variances in steep slope areas (as defined by the regulatory authority) if the proposed use met the performance standards of section 826.12.

Sections 816.150 to 816.156--Roads.--The revised regulations would define "primary" and "ancillary" (infrequently used) roads and would set different standards for each. (The original regulations, which were suspended, defined three classes of roads.) Option 1 of the proposed revision would set performance standards and design criteria (which would apply only to primary roads); option 2 would set performance standards only. Option 1 closely parallels sections 816.105-816.156 of the original regulations, which governed class 1 roads but which were suspended by the U.S. District Court. Option 2 would allow operators to use good engineering practices to design roads to meet minimum performance standards.

Section 816.180--Coal processing plants and support facilities.--The proposed revisions would amend and add definitions and would modify the permitting requirements and performance standards for these facilities. The term "surface coal mining operation" would be changed to "coal mining operation." Under this definition coal mining operations would include all cleaning, concentrating, and other processing or preparation conducted "in connection with" a mine, regardless of how far from a mine such activities are conducted. The current regulation has been interpreted to apply to such facilities only when conducted at or near a mine site.

The terms "coal processing" and "coal processing plant" would be defined to include only facilities which separate coal from its impurities. The current regulations are intended to include crushing and screening operations which do not separate coal from impurities, but there is an ambiguity in their interpretation.

The current regulations do not define "support facilities" although examples are provided in 30 CFR 816.181 and 817.181. The revised regulation would define such facilities as those "incidental to" a coal mining operation. Examples would be included which clarify OSM's intent to regulate transportation facilities other than roads and utility systems as "support facilities."

Changes to the performance standards for coal processing plants and support facilities would primarily be organizational. Part 827, which governs coal processing plants, would be modified to exclude performance standards for coal processing plants, impacts on air quality, and prime farmlands (currently invalidated by court order), and those which would be covered by the revised support facilities rules. The performance standards for support facilities, and utility systems would be retained and applied to transportation facilities other than roads.

The permitting requirements would be amended to reflect the fact that support facilities would be permitted in conjunction with other mines, and would

not require an independent permit. The permitting requirements would only apply to coal processing plants.

Sections 817.121, 817.122, 817.124, and 817.126: Subsidence (see also discussion of section 784.20, subchapter G).--The revised regulations would clarify when a subsidence control plan was needed and what the operator's liability was for damage due to subsidence. The regulations would also distinguish between controlled subsidence and mines that plan to prevent subsidence. Where controlled subsidence is to be used, the revised regulations would clarify the requirements for protecting impacted surface areas.

Part 822: Alluvial valley floors.--See discussion of section 785.19, subchapter G.

Part 823: Prime farmland.--These regulations pertain to highly productive soils that have historically been used as cropland. The regulations specify revegetation requirements and special techniques for handling prime-farmland soils to ensure that the reconstructed soils are returned to a productivity level equal to that of surrounding unmined prime farmlands. The revised regulations (sec. 823.11) would no longer require that soils incidentally impacted by long-term support facilities be reconstructed to prime-farmland standards. In addition, the revised regulations would require the States to establish soil-reconstruction standards in consultation with the Soil Conservation Service, and to work with them to develop techniques to measure soil productivity.

Part 825: Special bituminous mines in Wyoming.--The revised regulations would delete all substantive sections, including performance standards, of existing part 825. A new section 825.2 would provide that special bituminous mines in Wyoming must comply with all the approved or amended State of Wyoming statutes, its regulatory program, and other regulations and decisions. This provision would make clear Wyoming's primacy regarding such mines since the Wyoming State Program was approved on November 26, 1980, and OSM and the State of Wyoming have entered into a cooperative agreement for mining on Federal lands in Wyoming (Jan. 28, 1981). Both Wyoming's regulatory program and cooperative agreement provide for regulations and standards governing special bituminous mines. These regulations and standards would be consistent with the provisions of section 517 of SMCRA and existing part 825, and they would have essentially the same requirements as the current regulations.

Part 827: Coal processing plants.--The revised regulation would apply to all coal processing plants operated in connection with a coal mine. (Processing plants directly associated with powerplants or other industrial facilities would not be regulated.) Performance standards in part 827 would be incorporated by reference to other parts of the revised regulations, such as standards for support facilities, roads, wells and water rights, sediment-control structures, topsoil, and prime farmlands, so as to eliminate duplication in the requirements.

Subchapter L: Inspection and Enforcement

These regulations specify the standards and procedures governing Federal and State regulatory authority inspection and enforcement, including civil penalty assessments. Most of the revisions to these regulations were evaluated in the cumulative EA (OSM, 1982a) and were not found to have significant impacts on the environment. The revisions are considered part of the context in which the

proposed revisions would be made, except for proposed section 843.12, which would no longer require OSM to issue notices of violation in States that had primacy.

Subchapter M: Part 850.—Training, Examination, and Certification of Blasters

The revised regulations would eliminate certain requirements of the existing regulations, such as the concept of blaster-in-charge and the preparation and administration by OSM of a national blaster certification exam. Such responsibility would be accomplished by the regulatory authorities on a State-by-State basis. Training of blasters would also become a responsibility of the regulatory authority. The revision would prescribe generally the areas to be covered by the training and the examination.